DRAFT
GENERAL MANAGEMENT PLAN
ENVIRONMENTAL IMPACT STATEMENT
WASHITA BATTLEFIELD NATIONAL HISTORIC SITE

Roger Mills County, Oklahoma

This *Draft General Management Plan / Environmental Impact Statement* describes and analyzes a proposed action and three alternatives for managing and using Washita Battlefield National Historic Site. The plan is intended to provide a foundation to help park managers guide park programs and set priorities. The alternative that is finally chosen as the plan will guide the management of the park over the next 15 to 20 years.

The "**no-action,**" or status quo, alternative provides a baseline for comparing the other three alternatives. Under this alternative, park managers will undertake no new construction projects or make any major changes in managing visitor use.

Three action alternatives would create zones within the park to protect resources and provide opportunities for a range of visitor experiences. Under the **preferred alternative** visitors would have opportunities to participate in a variety of activities. The major action of the alternative would be to locate the visitor/administrative facility offsite at the U. S. Forest Service site. In addition, cultural and natural resource management strategies would be pursued to ensure that the location of the visitor facility did not affect any known cultural resource sites or the cultural landscape, and that visitor activities did not adversely affect the resources. **Alternative A** would provide visitors with offsite learning opportunities, while preserving the reflective mood at the site. Most of the park would be zoned conservation/restoration with small areas of contemplative zoning at the overlook area and at an area on the west edge of the site. Under **alternative B** visitors would be provided with onsite learning opportunities through integration of the visitor facilities with the historic scene. The goal would be to provide a diverse but integrated range of onsite visitor experiences while respecting park resources.

This document also discusses the potential consequences of each alternative's actions on cultural resources, natural resources, visitor use and experiences, and the socioeconomic environment. In general, the three action alternatives would better protect the park's cultural and natural resources than the no-action alternative. Alternative A would provide the greatest protection of natural resources, but would have the most negative impacts on visitor use. Alternative B would provide for greater visitor use than today, but also would have the most negative impacts on resources. The proposed action would best protect the park's natural resources while also maintaining a range of high-quality visitor experiences.

For questions about this document, contact the park at Washita Battlefield National Historic Site, PO Box 890, Cheyenne, OK 73628, or call 580-497-2742. Comments on this document will be accepted through **May 18, 2001**, at the above address.

SUMMARY

Washita Battlefield National Historic Site is relatively new to the national park system. Established in 1996 this NPS area in Oklahoma interprets the site of the Southern Cheyenne village of Peace Chief Black Kettle that was attacked by the 7th U.S. Cavalry under George A. Custer in 1868.

The park has been operating under an interim operating plan since 1996 and a strategic plan since 1998. This *General Management Plan / Environmental Impact Statement* (GMP / EIS) will provide guidance for managing Washita over the next 15-20 years.

Four alternatives, which include a no-action alternative, are presented in the document. Under all of these alternatives, certain considerations or actions would be givens. The landscape would be restored as closely as possible to its 1868 appearance. Native American values would be considered in the management and development of the park. Partnering with local, state, and other federal agencies would also be pursued. Under any scenario visitor use would be monitored to determine the best way for visitors to have a quality experience with the least effect on the resource.

Certain park policies and standard park practices that affect the historic site would be followed to ensure protection of cultural and natural resources, the best park experience for visitors, and the implementation of sustainable practices to minimize environmental impacts.

Four management zones — restoration/conservation, contemplative, extended learning, and development — have been established for guiding the use, development, preservation, and understanding of Washita. The zones are applied in varying combinations and locations in the three action alternatives.

ALTERNATIVES

The **no-action alternative** would be the baseline for evaluating the changes and impacts of the other action alternatives. Under the no-action alternative, the Park Service would continue to manage Washita as it has since its establishment. No major new construction would be authorized, and no major changes would be made in managing the park.

Under the **preferred alternative** visitors would have opportunities to participate in a variety of activities. Park managers would make several changes to address impacts from visitor use, and management zones would be applied to identify desired resource and visitor experience conditions. The major action of the alternative would be to locate the visitor/administrative facility offsite at the U. S. Forest Service site. In addition, cultural and natural resource management strategies would be pursued to ensure that construction of the visitor facility did not affect any known cultural resource sites or the cultural landscape, and that visitor activities did not adversely affect the resources.

Alternative A would provide visitors with off-site learning opportunities, while preserving the reflective mood at the site. Most of the interpretive experience would be offsite — most of the park would be zoned conservation/restoration with small areas of contemplative zoning at the overlook area and at an area on the west edge of the site.

At the offsite visitor center cultural demonstrations, cooperative programs with the Forest Service, and possibly a discovery trail at the site would educate visitors about resources of the area.

Under **alternative B** visitors would be provided with onsite learning opportunities through integration of the visitor facilities with the historic scene. The goal would be to provide a diverse but integrated range of onsite visitor experiences while respecting park resources. Facilities such as a visitor center, trails, and waysides would be integrated into the historic scene. The visitor/ administration facility would be at a former farm location. From the center, loop trails would channel visitors to important topographic and historic places across the site.

ENVIRONMENTAL CONSEQUENCES

Impacts of the No-Action Alternative

Minor, long-term, adverse impacts on archeological resources and the cultural landscape could occur. Minor to moderate, long-term adverse impacts would occur to enthnographic resources.

There would be minor, long-term effects on most natural resources. There would be overall positive long-term benefits to park soils. In the case of the natural soundscape the impacts would be predominately short term and adverse because of offsite noise and increased visitation.

There would be moderate, long-term, negative impacts on the visitor experience. Minor, positive, long-term impacts would occur to the socioeconomic environment.

Impacts of the Preferred Alternative

Generally impacts on cultural resources would be minimal. Ethnographic sites, the cultural landscape, and collections would benefit.

There would be minor to moderate, long-term impacts to natural resources. In the case of wildlife, there would be minor, short-and long-term impacts on wildlife species that live on or travel near the park area. Minor to major, short-term disturbances to the natural soundscape would occur during peak visitation and during construction activities.

Visitors would experience moderate, long-term, positive impacts. The development of a visitor center and remodeling of the overlook would provide some moderate to major, positive, short-term economic benefits for some individuals and enterprises involved with development.

Impacts of Alternative A

Long-term adverse impacts on archeological resources would be negligible, whereas long-term impacts on the landscape would be minor and beneficial. Improvement in visitor appreciation for and understanding of American Indian concerns would result in minor, long-term, beneficial impacts on ethnographic resources. There would be a moderate, long-term beneficial effect on collections, including archival materials.

As described under the preferred alternative, minor to moderate, long-term impacts would occur to most natural resources. There would be overall long-term, major benefits to wildlife species.

Visitors would experience minimal, long-term positive impacts. Some moderate to major, positive, short-term economic benefits would be experienced by individuals and enterprises involved with development.

Impacts of Alternative B

Mitigation measures would help reduce possible adverse effects on archeological resources and the cultural landscape under alternative B. Improved tribal access and public understanding of Indian concerns would create long-term moderate beneficial impacts on ethnographic resources. Long-term, moderate, beneficial effects on collections would occur through improved accountability, curation, and access for researchers.

Restoration actions would provide overall, moderate, long-term benefits to soils resources through stabilization of disturbed sites with native vegetation. Generally short-term minor to moderate impacts would occur to air and water quality. Moderate, long-term adverse impacts on vegetation would occur in association with visitor use/development areas. Moderate to major, short-and long-term impacts would affect wildlife species that live in or travel near the park. Activities and uses would result in minor to moderate, predominately short-term adverse impacts to natural soundscapes.

Alternative B would result in moderate, long-term positive impacts on the visitor experience. There would be minor to moderate, positive, short-and long-term impacts on the socioeconomic environment, with possible minor, negative, long-term impacts on road traffic in Cheyenne.

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MAPS

TABLES

HOW THIS DOCUMENT IS ORGANIZED

This document has six main parts. The first part, the "Introduction," explains why the plan is necessary and what the plan will accomplish. It provides background information about Washita Battlefield National Historic Site and describes the park's purposes, significance, and mission goals. Included in this part are the major issues and concerns, the focus of the plan, and the National Park Service (NPS) policies and standard park practices that have guided, and continue to guide, the management of Washita Battlefield National Historic Site.

The "Alternatives, Including the Preferred Alternative" part presents alternatives for managing the park. The no-action alternative describes the current approach to managing Washita Battlefield without the implementation of a new management plan and is required as a baseline for comparison of action alternatives. The preferred alternative describes the National Park Service's preferred approach for managing the park. Alternatives A and B present other management options.

The fourth major part is the "Affected Environment." This part describes selected cultural and natural resources of the park and visitor experiences and uses. The socioeconomic conditions in the region surrounding Washita are also described. Information in the "Affected Environment" part provides the context for analyzing the impacts of the management alternatives.

The next part, "Environmental Consequences," describes the effects each alternative would have on key park resources, visitor experiences and uses, and the regional socioeconomic environment in the region.

The last part, "Consultation and Coordination," describes the process the planning team used to involve the public and consult with other agencies during the development of this plan.

The appendixes include a copy of the park's enabling legislation, a summary of the key legal mandates that affect management and planning for the park, and a summary of how the preferred alternative was selected.

PURPOSE OF AND NEED FOR A PLAN

This section describes why the National Park Service (NPS) has prepared this *Draft General Management Plan / Environmental Impact Statement* (GMP / EIS) for Washita Battlefield National Historic Site and the plan's intent.

The purpose of this plan is to describe the path the National Park Service intends to follow in managing Washita over the next 15 to 20 years. The plan will not provide specific and detailed answers to every issue or question facing Washita. However, the approved plan will provide a framework for proactive decision-making on such issues as visitor use, cultural and natural resource management, and site development, which will allow park managers to effectively address future problems and opportunities.

Washita Battlefield National Historic Site is a new unit of the national park system and is currently operating under an interim operating plan (1996) and a strategic plan (1998). A new general management plan is essential for providing guidance to manage Washita's visitors in the 21st century, and thus ensure the preservation of site resources and provision of opportunities for visitors to have quality park experiences.

This *Draft General Management Plan / Environmental Impact Statement* will have a 60-day public review comment period. During this period, the Park Service also will hold public meetings to provide additional opportunities for the public to provide comments on the draft. After the comment period ends, the planning team will review comments on the draft document, make appropriate revisions, modify various elements of the preferred alternative and the other alternatives to address comments, and prepare a final general management plan / environmental impact statement. The final document will include responses to substantive comments on the draft document. A minimum of 30 days after the final plan is published, the National Park Service will publish a record of decision in the *Federal Register* and the plan will then be implemented.

BRIEF DESCRIPTION AND HISTORY OF THE SITE

LOCATION

Located in Roger Mills County in western Oklahoma, Washita Battlefield National Historic Site protects and interprets the site of the Southern Cheyenne village of Peace Chief Black Kettle that was attacked by the 7th U.S. Cavalry under Lt. Col. George A. Custer at dawn on November 27, 1868 (see the Location map). The major features of the park are the Washita River and its floodplain, the area where the village is believed to have been located.

The town of Cheyenne is less than a mile from the park. Other nearby towns include Reydon (15 miles), Elk City (30 miles), and Sayre (26 miles).

HISTORY OF THE SITE

The cultural collision between pioneers and Indians reached its peak on the Great Plains during the decades before and after the Civil War. U.S. Government policy sought to separate tribes and settlers from each other by establishing an Indian Territory (present-day Oklahoma). Some Plains tribes accepted life on reservations. Others, including the Cheyennes, Kiowas, and Comanches, did not. They continued to hunt and live on traditional lands outside the Indian Territory. At first, this choice produced little conflict. But following the Civil War, land-hungry settlers began penetrating the plains in increasing numbers, encroaching on tribal hunting grounds. Indians could no longer retreat beyond the reach of whites, and many chose to defend their freedom and lands rather than submit to reservation life.

Events leading to the Washita attack included the Sand Creek Massacre of 1864. On November 29 troops under the command of Col. J.M. Chivington attacked and destroyed the Cheyenne camp of Chief Black Kettle on Sand Creek, 40 miles from Fort Lyon, Colorado Territory. Black Kettle's band flew an American flag and a white flag and considered themselves at peace and under military protection. In response to public sentiment, a federal peace commission was created to convert Plains Indians from their nomadic way of life and settle them on reservations.

On the Southern Plains, the work of the commission culminated in the Medicine Lodge Treaty of October 1867. Under treaty terms, the Arapahos, Cheyennes, Comanches, Kiowas, and Kiowa-Apaches were assigned to reservations in the Indian Territory. There they were supposed to receive permanent homes, farms, agricultural implements, and annuities of food, blankets, and clothing, but these were never provided. The treaty was doomed to failure. Many tribal leaders refused to sign. Some who did sign had no authority to compel their people to comply with such an agreement. Warrior societies, mostly young men violently opposed to reservation life, continued to raid white settlements in Kansas.

Maj. Gen. Philip H. Sheridan, in command of the Department of the Missouri, adopted a policy that "punishment must follow crime." In retaliation for the Kansas raids, he planned to mount a winter campaign when Indian horses would be weak and unfit for all but the most limited service. The Indians' only protection in winter was the isolation afforded by brutal weather.
Black Kettle and Arapaho Chief Big Mouth went to Fort Cobb in November 1868 to petition Acting Indian Agent Colonel William B. Hazen for peace and protection. A respected leader of the Southern Chey-

enne, Black Kettle had signed the Little Arkansas Treaty in 1865 and the Medicine Lodge Treaty in 1867. Hazen told them that he could not allow them to bring their people to Fort Cobb for protection because only General Sheridan, the Departmental Commander, had that authority. Disappointed, the chiefs headed back to their people at the winter encampments on the Washita River.

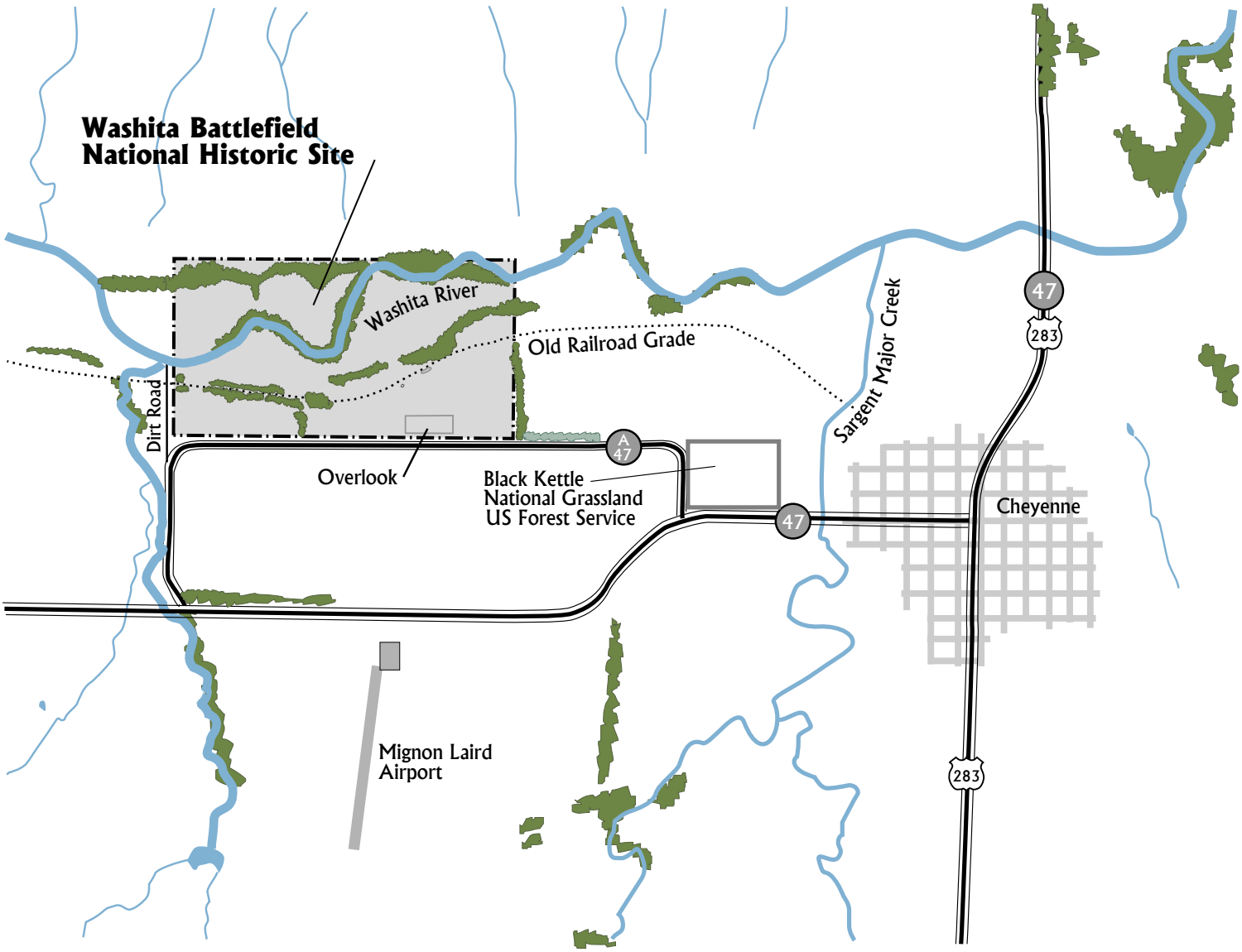
Even as Black Kettle and Big Mouth parlayed with Colonel Hazen, the 7th Cavalry established a forward base of operations at Camp Supply, Indian Territory as part of Sheridan's winter campaign strategy. Under orders from Sheridan, Lt. Col. George A. Custer marched south on November 23 with about 800 troopers, traveling through a foot of new snow. After four days, the command reached the Washita valley shortly after midnight on November 27. They silently took up a position near an Indian encampment their scouts had discovered at a bend in the river.

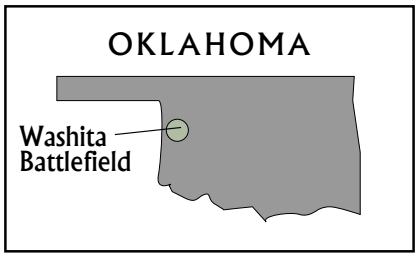
Black Kettle, who had just returned from Fort Cobb on November 26, had resisted the entreaties of some of his people, including his wife, to move their camp downriver closer to larger encampments of Cheyennes, Kiowas, and Apaches wintered there. He refused to believe that Sheridan would order an attack without first offering an opportunity for peace.

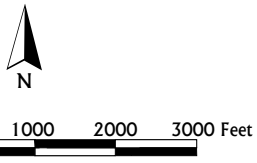
Before dawn, the troopers attacked the 51 lodges, killing a number of men, women, and children. Custer reported about 100 warriors and several women and children killed, though Cheyenne accounts claimed 11 warriors plus 19 women and children lost their lives. More than 50 Cheyennes were captured, mainly women and children. Army losses were lighter: 2 officers and 19 enlisted men were killed. Most of the soldier casualties belonged to Maj. Joel Elliott's detachment, whose eastward foray was overrun by Cheyenne, Arapaho, and Kiowa warriors coming to Black Kettle's aid. Chief Black Kettle and his wife were killed in the attack.

Adhering to Sheridan's plan to cripple resistance, Custer ordered the slaughter of the Indian pony and mule herd estimated at more than 800 animals. The lodges of Black Kettle's people, with all their winter supply of food and clothing, were burned. Realizing now that many more Indians were threatening from the east, Custer feigned an attack toward their downriver camps, then quickly withdrew to Camp Supply with his hostages.

The engagement at the Washita might have ended very differently if the larger encampments to the east had been closer to Black Kettle's camp. As it happened, the impact of losing winter supplies, plus the knowledge that cold weather no longer provided protection from attack, convinced many bands to accept reservation life.







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Washita Battlefield National Historic Site

United States Department of the Interior/National Park Service

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PURPOSES, SIGNIFICANCE, AND MISSION GOALS OF WASHITA BATTLEFIELD NATIONAL HISTORIC SITE

The purposes, significance, and mission goals of Washita are three of the key elements that shaped the development of the *Draft General Management Plan*. These elements underlie how the park is managed. The purposes tell why the park was set aside as a unit in the national park system. The significance of the park addresses what makes the area unique — why it is important enough to our cultural and/or natural heritage to warrant national park designation and how it differs from other parts of the country. Washita's mission goals articulate the ideal future conditions the National Park Service is striving to attain. All of the alternatives and management prescriptions in this management plan should be and are consistent with and support the park's purposes, significance, and mission goals. Based on Washita's enabling legislation, legislative history, agency management policies, and the knowledge and insights of park staff, the planning team identified the following purposes, significance statements, and mission goals for Washita.

The following statements of park purpose are based on the park's 1996 establishing legislation and consultation with local residents and Native American tribes.

- To recognize the attack by Lt. Col. George Armstrong Custer and the 7th U.S. Cavalry on the Cheyenne encampment of Chief Black Kettle as a nationally significant element of the United States government Indian policy.

- To recognize the struggles of the Cheyenne and other Southern Great Plains tribes to maintain control of their traditional homelands.

- To protect, preserve, and interpret the cultural and natural resources of the national historic site through the collaborative efforts of the United States government and the Cheyenne-Arapaho Tribe.

Washita is significant for the following reasons:

- The attack at Washita was the first implementation of a strategic policy adopted by the U.S. Army to strike encampments of Plains Indians in winter when they were most vulnerable.

- The attacks at Sand Creek, Washita, and Little Bighorn document the escalation of hostilities between whites and Plains Indians resulting from the failures of the treaty system.

- The events at Washita greatly impacted two prominent individuals: Chief Black Kettle, widely known for his pursuit of peaceful co-existence with whites, lost his life; Lt. Col. George Custer, already known for his exploits during the Civil War, gained a reputation as an aggressive Indian fighter.

- Washita epitomizes the ethical dilemma of resolving cultural conflict through military means and must be interpreted from multiple perspectives.

- The physical resources (cultural landscape) and the intangible resources (emotions, memory, sense of connection)

of the Washita site possess a high degree of integrity.

- Washita is a deeply meaningful place and has spiritual significance to the Cheyenne and Arapaho people. It portrays cultural values and exemplifies a way of life that continues into the present.

- The attack at Washita was a milestone in the struggle of the Great Plains tribes to maintain the freedom of their traditional lifeways.

- Washita is a place to show respect for lives that have been lost.

- The interpretation of Washita brings opportunities for healing and education.

The mission goals of Washita areas follows:

- Natural and cultural resources and associated values of Washita Battlefield National Historic Site are protected, restored, and maintained in good condition and managed within their broader ecosystem and cultural context.

- Washita Battlefield National Historic Site contributes to knowledge about natural and cultural resources and associated values; management decisions about resources and visitors are based on adequate scholarly and scientific information.

- Visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of Washita Battlefield National Historic Site's facilities, services, and appropriate recreational opportunities.

- Park visitors and the general public understand and appreciate the preservation of Washita Battlefield National Historic Site and its resources for this and future generations.

- Washita Battlefield National Historic Site uses current management practices, systems, and technologies to accomplish its mission.

- Washita Battlefield National Historic Site increases its managerial capabilities through initiatives and support from other agencies, organizations, and individuals.

INTERPRETIVE THEMES

Interpretive themes are the key stories or concepts that every visitor to Washita Battlefield National Historical Site should understand. They include the ideas that are critical to a visitor's understanding of the park's significance.

These themes, listed in no particular order, will provide the foundation for all interpretive media (exhibits, films, brochures, etc.) and programs at the park. These themes helped guide the development of the management alternatives; alternatives that did not support the communication of the themes were not considered.

- The events at Washita were a product of a clash between two cultures whose beliefs were so different and incompatible that violent conflict resulted.

- The attack at Washita was the first implementation of a strategic decision by the U.S. Army, which had been unsuccessful in engaging Indian combatants, to launch a "total war" campaign against Southern Plains Indians by striking winter encampments and destroying their property when Indian communities were most vulnerable.

- Indians and many whites labeled the attack at Washita a massacre, unprovoked and unjust, while the United States military and many civilians hailed it as a great victory in the struggle to reduce Indian raids on the frontier.

- Chief Black Kettle's life was filled with irony: he was a major proponent for peace, signing three treaties between 1861 and 1867, yet he was attacked at Sand Creek and Washita.

- Gen. Philip Sheridan felt that Lt. Col. George Custer's aggressiveness was the key to the successful implementation of the army's new strategy against the tribes of the Southern Plains. The reports of Custer's victory catapulted him into the public imagination as a great Indian fighter and, ironically, encouraged the headstrong behavior that led to his demise at Little Bighorn.

- The attack at Washita and the resulting death of Black Kettle were pivotal events in the evolving relationships between the Cheyenne people, white settlers, and the U.S. government.

- The hallowed ground of Washita provides opportunities to understand the resiliency of the human spirit and the struggle of societies to maintain cultural identity.

PRIMARY PLANNING ISSUES AND OPPORTUNITIES

The planning team identified four key issues and concerns facing Washita based on discussions with park staff, interested agencies and organizations, tribes, and the general public. Many of the issues revolve around what the visitor experience will be and what level of visitor facilities and development is appropriate for Washita. The *Draft General Management Plan / Environmental Impact Statement* provides a framework or strategy for addressing these issues. This section summarizes the key issues and concerns of this document.

VISITOR USE AND EXPERIENCE

Since Washita's establishment, visitation to the park has been fairly low. It is expected to increase as the public becomes aware of the park. It needs to be determined what would be the best level of visitor use for Washita in order to tell the story while protecting the park's resources.

The National Park Service must determine the conditions (i.e., resource conditions, visitor experiences) for which Washita should be managed. If park managers allow use levels to increase unchecked, resource damage might increase and opportunities for quality experiences, such as solitude, could decline. If park managers regulate or restrict use levels, resources could be better protected, but visitors would have less freedom to go where and when they choose. If park managers limit use in one area and displace visitors, other areas within or outside the park could receive higher use levels and resource impacts.

NATIVE AMERICAN PARTNERSHIP

Native American partnerships are vital to the success of the park. Legislation mandates involvement of Native American groups in the development and management of the park.

PARTNERSHIPS WITH OTHER GOVERNMENTAL AGENCIES

Partnering with local, state, and other federal agencies is being done and will continue to be done as part of any alternative. An example would be the need to work with local commissions and governments in developing protection strategies for important views from the park.

ECOSYSTEM RESTORATION

The legislation establishing Washita calls for restoration of the landscape as close as possible to its 1868 appearance. Under each of the alternatives restoration of the landscape would be implemented.

FUTURE PLANS TO ADDRESS OTHER ISSUES

Future plans for the park will be prepared to address several other issues that are of concern to the park managers and visitors of Washita. This *General Management Plan* provides direction and lays the groundwork for addressing these issues. However, future implementation plans will provide specific directions and actions to deal with these issues.

CULTURAL LANDSCAPE REPORT

The cultural landscape inventory has determined that Washita is nationally significant as a cultural landscape in addition to its significance as a national historic landmark site. As the primary guide to treatment and use of a cultural landscape, the cultural landscape report will help guide treatment and use of Washita's cultural landscape. It will be based on the historic contexts for the area and will document the characteristics, features, materials, and qualities that make this landscape eligible for the national register. In addition, the report will analyze the landscape's development and evolution, modifications, materials, construction, geographical context and setting, and uses in all periods. Important to planning and park management, this analysis will also evaluate the significance of individual landscape characteristics and features within the larger landscape context. It will make recommendations for future landscape treatment to minimize loss of significant characteristics, features, and materials.

STUDY FOR RAILROAD GRADE RESTORATION

Bisecting the current park is a railroad grade that was constructed during the 1920s. The legislation establishing the park states that the landscape will be restored, as closely as possible, to its appearance at the time of the event. The railroad grade may be removed in the future to help attain this goal. However, the cost, impacts, and benefits of removing the grade need to be studied in further detail before a decision can be made.

VIEWSHED PROTECTION STUDIES

The protection of the views surrounding the park is one of the most important issues of the park's management. A goal of the park staff is to identify views that need to be protected and develop how best to work with local landowners to protect these views.

WATER RESOURCE STUDIES

In 1999 a water resources scoping report was prepared for Washita by the National Park Service. In this report was a list of specific issues and recommended actions involving the park's water resources. They include the following:

- Address the lack of monitoring necessary to establish water quality baseline and monitor long-term water quality trend.
- Address the lack of information on aquatic biological resources.
- Acquire complete knowledge of property and water rights ownership and obtain a solicitor's opinion as to the ownership and validity of all water rights associated with the park.
- Complete a riparian zone condition assessment.

- Survey for and initiate control of exotic plants.

- Follow up on the monitoring of private waste disposal pits that are located upstream.

- Acquire a more complete knowledge of mineral rights and potential development within the local watershed/ viewshed.

RESOURCE MANAGEMENT PLANS

The park is preparing its first resource management plan. The plan addresses the long-term management, inventorying, and monitoring of park's natural and cultural resources. Other resource plans the park would be completing include fire management, vegetation management, and integrated pest management. All these plans would be developed within the context of the cultural landscape report.

COMPREHENSIVE INTERPRETIVE PLAN

Two workshops were held in 1998 with the goal of initiating a comprehensive interpretive plan for Washita Battlefield. In these workshops, park partners, resource experts, stakeholders, and park staff developed the primary interpretive themes for Washita Battlefield and developed some preliminary ideas for interpretive media and programs. The *Draft Comprehensive Interpretive Plan* was completed in 2000. Following the approval of the GMP, the *Comprehensive Interpretive Plan* will be finalized.

ETHNOGRAPHIC OVERVIEW

The ethnographic overview will provide a comprehensive background study of the types, uses, and users of ethnographic resources within the park. Existing ethnographic data will be reviewed, summarized, and evaluated, and data gaps will be identified. Ethnographic information in this overview will be derived primarily from existing archival and published materials, and will be supplemented by interviews and oral histories of knowledgeable community consultants.

MANDATES, POLICIES, AND PRACTICES

A number of federal laws and NPS policies and practices guide the management of Washita Battlefield National Historic Site. Appendix B describes some of these key federal laws. This section focuses on park policies and standard park practices that affect the management of units in the national park system and particularly Washita Battlefield National Historic Site.

These policies and practices guide the actions taken by park staff on such topics as natural and cultural resource management, development of park facilities, and visitor use management.

These policies and practices would continue to guide park managers under all of the alternatives described in "Alternatives, Including the Preferred Alternative." Park staff would continue to implement NPS policies and goals, as identified in NPS *Management Policies* (1988), the NPS *Strategic Plan* (2000), and the *Washita Battlefield National Historic Site Strategic Plan (2000).*

The ongoing management policies and practices of Washita are described below. For each topic discussed, there is a general statement that describes the National Park Service's desired future condition or goal for Washita. The general strategies or actions taken (or that will be taken) by park staff to achieve the desired conditions are also discussed. Some of the strategies described below are not currently being implemented, but the strategies are consistent with NPS policy, are not believed to be controversial, and would require no additional analysis and documentation under the National Environmental Policy Act.
The alternatives in this GMP / EIS include additional desired conditions and strategies besides the ongoing park policies and practices described below. The combination of the ongoing park policies and practices in this part and the strategies specific to the alternative that is selected for implementation will form the final GMP for Washita Battlefield National Historic Site.

RELATIONS WITH PRIVATE AND PUBLIC ORGANIZATIONS, ADJACENT LANDOWNERS, AND GOVERNMENTAL AGENCIES

Washita is not isolated — the park is part of a greater area, historically, socially, politically, and ecologically. The National Park Service must consider how its actions at Washita affect the surrounding environment and society. A number of agreements and the legislation establishing the park guides these relations.

Desired Conditions

The National Park Service manages Washita holistically as part of a greater ecological, social, economic, and cultural system. The Park Service demonstrates leadership in resource stewardship and conservation of ecosystem values within and outside the park. Good relations are maintained with adjacent landowners, surrounding communities, tribal entities, and private and public groups that affect, and are affected by, the park. Washita is managed proactively to resolve external issues and concerns and to ensure park values are not compromised.

Strategies

Park staff would continue to establish and foster partnerships with public and private organizations to achieve the purposes and

mission of the park. Partnerships would be sought for resource protection, research, education, and visitor enjoyment purposes.

To foster a spirit of cooperation with neighbors and encourage compatible adjacent land uses, park staff would keep landowners, land managers, local governments, and the public informed about park management activities. Periodic consultations would occur with landowners and communities who were affected by, or potentially affected by park visitors and management actions. Park staff would respond promptly to conflicts that arose over their activities, visitor access, and proposed activities and developments on adjacent lands that could affect Washita. Park managers would seek agreements with landowners to encourage their lands to be managed in a manner compatible with park purposes. Park staff also would seek ways to provide landowners with technical and management assistance to address issues of mutual interest.

The National Park Service would work closely with local, state, federal agencies, and tribal governments whose programs affect, or are affected by, activities at the park. They also would pursue cooperative regional planning whenever possible to integrate the park into issues of regional concern.

RELATIONS BETWEEN NATIVE AMERICAN TRIBES AND WASHITA BATTLEFIELD NHS

Several Plains tribes view the Washita site as part of their traditional homeland. These tribes and bands include the Southern Cheyenne and Arapaho, Plains Apache, Caddo, Wichita, Comanche and Kiowa. The Northern Cheyenne and Northern Arapaho Tribes also have expressed their close affiliation with Washita. Traditional cultures have a long and enduring relationship with the land and its resources, a relationship that links the prehistoric past with the ethnographic present.

The National Park Service has developed several park policies based on legal mandates, such as the National Historic Preservation Act, Archaeological Resources Protection Act, Native American Graves Protection and Repatriation Act, and the American Indian Religious Freedom Act.

Desired Conditions

The National Park Service and tribes culturally affiliated with Washita maintain positive, productive, government-to-government relationships. Park managers and staff respect the viewpoints and needs of the tribes, continue to promptly address conflicts that occur, and consider American Indian values and participation in park management and operation.

Strategies

The National Park Service would continue to cooperate with tribes in conducting ethnographic studies to better understand which tribes were culturally affiliated with the park and identify culturally significant resources.

The park’s intangible resources, related to the religious feelings of American Indians, must be treated with great sensitivity. The NPS would continue to consult with concerned tribes to develop mutually acceptable ways to enhance their privacy during religious activities, foster a sense of shared responsibility for the park, and to develop a feeling of reconciliation.

Consultation with the Cheyenne and Arapaho tribes would precede archeological

work, and all possible measures would be taken to resolve differences between Indian tribes and federal managers reasonably so that NPS plans and actions respect the cultural context of sites. Burials and sacred objects would be afforded the utmost respect. Park managers would establish a prompt and effective notification system to contact and consult with concerned groups in case of inadvertent discoveries or repatriation. Tribes would be consulted when cultural properties of interest to them are involved.

Protection of these resources also is essential. National register properties would have the highest priority for protection and preservation. Regular consultations would occur with affiliated tribes to continue to improve communications and resolve any problems or misunderstandings.

Park managers would continue to encourage the employment of American Indians to improve communications and working relationships, and encourage cultural diversity in the workplace.

Culturally affiliated tribal values would be considered in efforts to improve overall management and site interpretation.

CULTURAL RESOURCES (GENERAL)

Washita's cultural resources, including its prehistoric, historic, and ethnographic resources, are an integral part of the park's landscape. Protection of these resources is essential for understanding people's past, present, and future relationship with the park environment and expressions of America's cultural heritage.

Overall Desired Conditions

Washita's cultural resources are protected and the integrity of the park's cultural resources is preserved. Visitors and employees recognize and understand the value of the park's cultural resources. Washita is recognized and valued as an example of cultural resource stewardship, conservation, education, and public use.

General Strategies

The National Park Service would support basic and applied research, directly and through various partnerships and agreements, to enhance the understanding of resources and processes or to solve specific management questions.

The story of Washita cannot be fully understood without placing it in a much broader historic context that considers such changes in federal Indian policy, the actions of both the military and tribes, American settlement and emigration patterns, and Indian wars in the West. With the goal of deepening visitor understanding of and appreciation for the Washita story, park staff would work with other parks, governmental agencies, and entities to relate the Washita story to events at Sand Creek and the Little Big Horn.

As part of the cultural landscape, the park's natural and cultural resources are interrelated. Management of the park's resources would consider the synergistic effects of all proposals on both types of resources. Plans for managing fire, non-native species, trail maintenance, etc. would integrate both cultural and natural concerns, identify significant resources, and clearly articulate procedures for dealing with both types of resources.

Resources identified as a component of the larger cultural landscape would be managed in the broader context rather than as an individual element or resource.

Museum objects and collections, study collections, archeological materials, natural resource specimens, exhibits, and items are essential to achieving the purposes of the park, including scientific research, historic preservation, and interpretation and education. A scope of collections statement has been developed to guide acquisition of objects and documents that contribute directly to the understanding and interpretation of the park's themes.

Park staff would use the best available scientific information and technology for making decisions on and managing the park's cultural resources.

Park staff and researchers would continue to collect information to fill gaps in the knowledge and understanding of Washita's cultural resources, to assess their status and trends and more effectively protect and manage the resources.

To provide the public and park staff with optimum interpretive and resource management opportunities, park personnel would continue to research, document, and catalogue the artifacts. All artifacts and archival materials would be conserved to NPS and professional standards.

Visitor use management and construction mitigation techniques would continue to ensure that human activities were not damaging park resources.

Park managers would continue to regularly update the resource management plan and prioritize actions needed to protect park resources.

NATURAL RESOURCES (GENERAL)

Protection, study, and management of the park's natural resources and processes is essential for achieving the park's purposes and mission. The resource management plan (under preparation) provides strategies and actions to address the park's most important resource management problems and research needs.

Overall Desired Conditions

Restore the ecological integrity of the Washita as best possible, including its natural resources and processes. The natural features of the park, including the natural soundscape, remain undisturbed. The park is restored as closely as possible to its 1868 appearance. The park continues to be a dynamic, biodiverse environment. Park visitors and staff recognize and understand the value of the park's natural resources. Park staff use the best available scientific information and technology to manage the park's natural resources. Park managers ensure that facilities are available to meet the needs of park staff and independent researchers engaged in fundamental physical, biological, and cultural studies and analyses. Washita is recognized and valued as an outstanding example of resource stewardship, conservation, education, and public use.

General Strategies

Park staff and other researchers would continue to inventory park resources to quantify, locate, and document biotic and abiotic resources in the park and to assess their status and trends.

Park managers would encourage and support basic and applied research directly through various partnerships and agreements to enhance the understanding of park resources and processes, or to answer specific management questions.

Park staff and other researchers would continue the long-term systematic monitoring of resources and processes to discern natural and human induced trends, document changes in species or communities, evaluate the effectiveness of management actions taken to protect and restore resources, and to mitigate impacts on resources.

The National Park Service would continue to expand the data management system, including a geographic information system (GIS), a research data base, and a literature data base, for analyzing, modeling, predicting, and testing trends in resource conditions.

AIR QUALITY

Washita is designated a class II area under the Clean Air Act. A Class II designation indicates the maximum allowable increase in concentrations of pollutants over baseline concentrations of sulfur dioxide and particulate matter, as specified in the 1963 Clean Air Act (42 U.S.C. 7401 et seq.). Further, the Clean Air Act provides that the federal land manager has an affirmative responsibility to protect air quality related values (including visibility, plants, animals, soils, water quality, cultural resources, and visitor health) from adverse pollution impacts.

Staff of Washita would continue to apply the following measures to avoid or minimize the impacts on sensitive natural resources:

Manage beaver population within the riparian area to prevent loss of significant trees

Employ erosion control measures or place barriers to control potential impacts on plants from trail erosion or social trailing

Employ a variety of techniques, including visitor education programs, restrictions on visitor activities, and ranger patrols, to reduce impacts on wildlife

Use designated river access/crossing points, barriers, and closures to prevent trampling and loss of riparian vegetation

Desired Conditions

Washita class II air quality is maintained or enhanced with no significant degradation

Strategies

The National Park Service would continue to work with appropriate state and federal government agencies, industries, nearby communities, and land managers to maintain park and regional air quality.

NIGHT SKY

NPS policy recognizes that Washita's night sky is a feature that significantly contributes to the visitor experience. The policy further states that the Park Service will seek to minimize the intrusion of artificial light into the night scene. In natural areas, artificial outdoor lighting will be limited to meeting basic safety requirements and will be shielded when possible.

Desired Conditions

Excellent opportunities to view the night sky are available. Artificial light sources both within and outside the park do not diminish night sky viewing opportunities.

Strategies

Park staff would continue to work with local communities to encourage protection of the night sky and would evaluate impacts on the night sky caused by facilities within the park. To the extent possible, the staff would work within a regional context to protect night sky quality. The park would strive to set the best example in all developments that involve the use of artificial outdoor lighting, ensuring that it was limited to basic safety requirements and was shielded to the maximum extent possible, to keep light on the intended subject and away from the night sky.

WATER RESOURCES

The Washita River is a key resource at Washita, shaping the landscape and affecting plants, animals, and visitor use. The river, its floodplain and riparian areas are all part of the park's water resources.

Desired Conditions

Maintain or improve current water resource conditions.

Strategies

The National Park Service would work cooperatively with the other agencies and landowners to improve Washita River water quality. They would continue to monitor water quality for any changes.

NATURAL SOUNDSCAPES

NPS *Management Policies* require park managers to strive to preserve the natural quiet and the natural sounds associated with the physical and biological resources (for example, the sounds of the wind in the trees).

What is natural quiet? Parks offer a variety of unique, pristine sounds not found in most urban or suburban environments. They also offer a complete absence of sounds that are found in such environments. Together, these two conditions provide a special dimension to a park experience — quiet itself. In the absence of any discernible source of sound (especially manmade), quiet is an important element of the feeling of solitude. Quiet also affords visitors an opportunity to hear faint or distant sounds, such as animal activity. Such an experience provides an important perspective on the vastness of the environment in which the visitor is located, often beyond the visual boundaries determined by trees, terrain, and the like. In considering natural quiet as a resource, the ability to clearly hear the delicate and quieter intermittent sounds of nature, the ability to experience interludes of extreme quiet for their own sake, and the opportunity to do so for extended periods of time is what natural quiet is all about.

Desired Conditions

Natural sounds predominate at Washita. Visitors have opportunities throughout most of the park to experience natural sounds in an undisturbed condition. The sounds of civilization are generally confined to developed areas.

Strategies

The park would establish a baseline sound measurement to monitor changes over time. Park managers would minimize noise generated by park management activities by strictly regulating administrative functions such as motorized equipment. Noise would be a consideration when procuring and using park equipment.

Bus tour companies would be requested to comply with regulations that reduce noise levels (e.g., turning off engines when buses are parked).

The potential exists for increases in air traffic above the park. If needed the National Park Service would work with the Federal Aviation Administration (FAA), commercial businesses, and general aviation interests to encourage aircraft to fly outside the park.

VISITOR INFORMATION, ORIENTATION, INTERPRETATION AND EDUCATION

The National Park Service and its partners use a variety of methods to orient visitors to Washita Battlefield National Historical Site, provide information about the park, and interpret the park's resources for visitors. The *Draft Comprehensive Interpretive Plan* (NPS 2000), developed in conjunction with park partners and stakeholders, describes interpretation goals and interpretive themes. The plan describes what the park staff will do to provide visitors with information, orientation, and interpretation. The plan also addresses interpretive media such as exhibits, films, and wayside exhibits. The *Draft Comprehensive Interpretive Plan* will be finalized after this *General Management Plan* is completed.

Interpretive messages would provide visitors a deeper understanding of the significance of the park to American Indians. These messages would encourage visitors to respect tribal commemorative offerings by leaving them in place, undisturbed.

Desired Conditions

The National Park Service makes pretrip information available to assist visitors in planning a rewarding visit to the park. Park staff uses a variety of media and outreach methods to increase awareness about the park and assist visitors with preplanning. Visitors are able to easily locate the park with the use of proper signage. When visitors arrive at the park, they receive information to orient them to what to do (and what not to do), what to see, and how to enjoy the park in a safe, low-impact way. Interpretive programs connect the visitor to the park's significance, build a local and national constituency, and gain public support for protecting the park's resources and interpreting its story. Interpretive programs are based on current and accurate scholarship, provide multiple perspectives, and present the actions and events fairly. Outreach programs through schools, organizations, and partnerships build emotional and intellectual ties with the park, its resources, and its themes. Also the park would make facilities, interpretive programs, and other services accessible to people with disabilities.

Strategies

Park managers would finish and implement the park's comprehensive interpretive plan with emphasis on providing information, orientation, and interpretive services in the most effective way possible.

Park staff would stay informed of the park's developing and changing visitor demographics and desires to better tailor programs to visitor needs and desires. They would develop interpretive media and programs supportive of park significance and themes.

Working with other agencies, partners, native American tribes, and local communities, park staff would take action to increase awareness of the park and its resources and themes. This would include improving pretrip planning, directional signs to the park, and enroute information and orientation. Park staff would work with local communities and other related historical sites to tell the story of Washita in a comprehensive and coordinated fashion. Park staff would also seek partnerships with other state and national parks, educational institutions, tribes, and other organizations to enrich interpretation and education opportunities about park themes regionally and nationally.

OIL AND GAS DEVELOPMENT POTENTIAL

The Anadarko Basin is a major oil and gas province because of its large size, thick section of sedimentary deposits, and significant accumulations of hydrocarbons. Since the early 1900s, there has been extensive oil and gas exploration and production in the Anadarko Basin. Throughout the basin, over 200,000 wells have been drilled, averaging four wells per square mile. According to recent production data, more than 2.3 billion barrels of oil and more than 65.5 trillion cubic feet of gas have been produced from the Anadarko Basin since the early 1900s (USGS 1995).

There is primarily deep gas production from Pennsylvanian age Cherokee, Atoka and Morrow Groups reservoirs (pers. comm. Ron Dunkin) near the historic site. Within 1½ miles of the site, six wells have tested the deep reservoirs and were found unproductive. Since the reservoirs that are productive in the area have already been tested near the park, it is likely that future oil and gas drilling activity near Washita Battlefield would be minimal. However, it is still possible that deeper plays could be developed in the future. Due to the depth of the drilling targets (15,000' or more), wells could be directionally drilled from surface locations outside park boundaries to develop nonfederal oil and gas underlying federally owned lands within the park.

Desired Conditions

When the surface was purchased at Washita Battlefield, all of the subsurface mineral rights were retained by the private landowner. In order to maintain the integrity of park resources and the visitor experience, the park would work with operators to minimize the impacts of oil and gas development.

Strategies

If oil and gas development were to occur within the park, the operations would be regulated by the NPS nonfederal oil and gas rights regulations in 36 CFR (Part 9, Subpart B). The NPS regulations would be applicable where access is on, across, or through NPS-owned or controlled lands. Before conducting oil and gas operations on NPS lands, an oil and gas operator must submit and obtain NPS approval of a proposed plan of operations. The plan of operations describes in detail the proposed operation, mitigation measures that would be implemented to protect park resources, and reclamation plans for the operations site. Prior to plan approval, the Park Service must

prepare an environmental assessment that analyzes the impacts of the proposed operation. If approved, an operator must tender a performance bond to the Park Service that covers both operator's potential liability and the cost of reclamation. There would be a $200,000 cap on performance bonds under the CFR regulations.

If the National Park Service were to determine that the proposed oil and gas operation would conflict with preservation, management, or use of the parks, the 36 CFR 9B regulations and NEPA process would result in identifying measures to mitigate impacts. If a proposed operation could not be sufficiently modified to prevent the derogation of park values and purposes, then the Park Service may seek to extinguish the associated mineral right through acquisition, unless otherwise directed by Congress.

An approved plan of operations would also be required for operators who seek to directionally drill a well from a surface location outside park boundaries to develop nonfederal oil and gas underlying federally owned or controlled lands or waters in a park. The NPS regional director may exercise discretion in terms of requiring all or part of an approved plan of operations for directional drilling operations if he or she determined that the proposed operation posed no significant threat of damage to unit resources and values (36 CFR §9.32(e)). While a waiver from all or part of the plan of operations requirements may be granted, operations would be subject to all other applicable provisions under 36 CFR 9B regulations.

SUSTAINABILITY

Sustainability can be described in this context as the result achieved by conducting activities in ways that do not compromise the environment or its capacity to provide for present and future generations. Sustainable practices minimize the short- and long-term environmental impacts of developments and other activities through resource conservation, recycling, waste minimization, and the use of energy-efficient and ecologically responsible materials and techniques.

Over the past several years, the federal government has been placing more emphasis on adopting sustainable practices. In particular, Executive Order 12873 mandates federal agency recycling and waste prevention, and Executive Order 12902 mandates energy efficiency and water conservation at federal facilities.

Desired Conditions

All decisions regarding park operations, facilities management, and development in Washita — from the initial concept through design and construction — reflect principles of resource conservation. Thus, all park developments and park operations are sustainable to the maximum degree possible and practical. New developments and existing facilities are located, built, and modified according to the *Guiding Principles of Sustainable Design* (NPS 1993) or other similar guidelines.

The park has state-of-the-art water systems for conserving water and energy conservation technologies and renewable energy sources whenever possible.

Biodegradable, nontoxic, and durable materials are used in the park whenever possible. Park personnel promote the reduction, use, and recycling of materials and avoid as much as possible materials that are nondurable, environmentally detrimental, or

that require transportation from great distances.

Strategies

Park staff would work with experts in and outside the agency to make Washita's facilities and programs sustainable. Park managers would perform value analysis and value engineering, including life cycle analysis, to examine the energy, environmental, and economic implications of proposed park developments. Park staff would support and encourage the service of suppliers, contractors, and concessioners who follow sustainable practices.

INTRODUCTION

This section describes the National Park Service's preferred approach (the draft preferred alternative) and three alternative approaches for managing Washita Battlefield National Historic Site — two action alternatives and one no-action (i.e., continuing current management) alternative. The alternatives and the assessment of the potential environmental consequences of the alternatives form the core of the *Draft General Management Plan / Environmental Impact Statement*.

Alternatives in this plan describe different general visions for the future of the park. They are intended to enable managers, users, neighbors, and the public to consider different approaches to managing visitor use and resources, directing development, and resolving conflicts that may arise at Washita.

The planning process used to develop the GMP is described below along with assumptions made in preparing the plan. Management zones were defined before presenting a range of alternatives that were generated based on zone management strategies. The no-action alternative describes continuing existing management in the park; the preferred alternative is the proposed plan for Washita; alternative A would provide an off-site visitor experience, and alternative B would provide an integrated visitor experience while minimizing site disturbance. Two tables (tables 6 and 7) at the end of the chapter summarize the key differences between the alternatives and the key differences in the impacts that are presumed will result by implementing each alternative. The impacts table is based on the analysis in the "Environmental Consequences" section of the document.

PLANNING PROCESS

In formulating the alternatives, the planning team considered the park's purposes and significance, the National Park Service mission, and other legal mandates and policies under which the park operates. In addition, the planning team solicited input from the public, government agencies, tribes, and other organizations about desired future conditions for the park and specific issues that need to be addressed by each of the alternatives regarding levels of visitor use; cultural and natural resources; and development adjacent to the park. Team members also gathered information about existing visitor use, the condition of the park's facilities and resources. Finally, the team identified a number of assumptions to guide development of the alternatives. Details of how the planning team selected a preferred alternative are in appendix C.

Using all of the above information, the planning team developed four potential management zones for guiding the use, development, preservation, and understanding of Washita and its resources. These zones form the basis for the range of reasonable alternatives proposed by the planning team, which are described below. The zones are applied in varying combinations and locations in the three action alternatives (see table 1). *Note:* the zones do not apply to the no-action alternative.

In October 1999 the planning team presented the preliminary alternatives and zone management strategies in a newsletter and series of public meetings. Based on comments from the public as well as park staff, the planning team then revised the initial alternatives and identified a preferred alternative. (See the inset for relevant planning terms used throughout the alternatives)

Definitions of Planning Terms

The following terms are used throughout this document.

Concept is the general idea that is behind the alternative and includes how visitors would experience the site.

Desired conditions refer to the goals or end results park managers are striving to achieve. The NPS can set desired conditions for park resources, visitor experiences, management activities, and facilities. Desired conditions reflect the park's purposes and mission goals, and ensure that the NPS preserves Washita's resources and provides quality experiences.

General management strategies describe the general actions park managers intend to take to achieve the desired conditions. These strategies are not tied to management zones. They may apply parkwide (e.g., general visitor use management) or to specific geographic areas or facilities (e.g., Visitor Center).

Management zones identify how different areas in the park will be managed to achieve a combination of desired conditions. Not to be confused with the traditional use of the term zoning.

Each of the action alternatives identified by the planning team consists of the following elements:

- an overall management concept
- a series of general management strategies and zone-specific management strategies (i.e., zone allocations and actions) that would be implemented
- a brief discussion of funding necessary for implementing each alternative

As noted in "Mandates, Policies, and Practices," the National Park Service would continue to follow a number of strategies at Washita regardless of the alternatives considered in this plan. These strategies are not repeated in this section. However, there are other general management strategies that do differ among the alternatives. These alternative management strategies are organized in this section by topic area.

The implementation of any alternative also depends on future funding — this plan in no way guarantees that the money will be forthcoming. The *Draft General Management Plan* establishes a vision of the future that will guide year-to-year management of Washita, but full implementation of the plan could be many years in the future.

DECISION POINT

One major decision point was identified during the scoping process. This point is the question around which alternatives were developed.

To what extent can public access to the site's cultural and natural resources be provided without unacceptable impacts to those resources?

POTENTIAL MANAGEMENT ZONE PRESCRIPTIONS

The key elements of the zones are summarized in table 1. It is important to note that none of the zones place limits on the number of people. If in the future the number of people visiting the park grows to the point where the desired visitor experience cannot be maintained, then visitor management techniques would be implemented to manage visitor numbers. Under the preferred alternative (and the other action alternatives), Washita would be divided into different zones. These zones identify how the different areas of the park would be managed to achieve a desired resource and visitor experience. The zones are intended to protect park resources and make a range of quality experiences available for visitors. The zones give visitors an

understanding of where certain activities are and are not allowed. They also tell park managers where development can and cannot be added and the intensity of management that is appropriate in different areas of the park. Note that the no-action alternative would not follow a new zone-management strategy.

Under all alternatives there may be the need for infrequent use (one or two times per year) of administrative vehicles for resource management and protection on the north side of the river. There may also be a need to look for solutions (i.e., bridging the Washita River or a low water crossing) or opportunities (i.e., private easement for access from the north) for better access to the north in the future.

TABLE 1: MANAGEMENT ZONES AND DESCRIPTIONS

Management Zone Prescriptions	*Visitor Experience*	*Resource Conditions*	*Types of Facilities*
Restoration-Conservation	While visitors would be allowed into this zone, access would not be encouraged. Solitude, natural quiet, and undirected discovery would be key to this experience. There would be a very low probability of encounters with other visitors or evidence of visitor impacts.	Resources would be restored and managed to 1868 appearances with the long-term goal of resource conservation.	No visitor facilities. Minimal facilities for resource protection or safety may be needed in the future
Contemplative	Visitor experience would be primarily one of solitude with opportunities for quiet and reflection. Selected area(s) would provide secluded experience for spiritual reflection. They may be close to development (parking) to provide easy access. There would be a relatively low probability of encounters with other visitors.	Resources would be restored and managed to 1868 appearances. There would be some vegetation management to provide for access and seclusion.	Development would be limited to primitive trails with benches and low-tech shade (existing trees, arbors). Limited development in selected area(s) for accessibility with some signs for informational purposes.
Extended Learning	The experience within this zone would focus visitors to an onsite in-the-resource experience with a combination of self-guided and ranger-led activities. There would be a moderate probability of encountering other visitors.	Predominately natural with restoration to the 1868 appearance but managed to provide for interpretation and visitor safety.	Trails, overlooks, and wayside exhibits and other media would be appropriate in these areas.
Development	Highly social, focused on education, orientation, and visitor comfort. This structured environment would be highly accessible, and contacts with park staff and other visitors would be common.	Resources would be modified for visitor and park operational needs. These areas would not be located on or near sensitive natural or cultural resources if such resources could not be adequately protected.	Maintenance facilities, administrative facilities, visitor center, utilities, parking areas, demonstration areas (including gardens), and hardened circulation would be appropriate in these areas.

NO-ACTION ALTERNATIVE

CONCEPT

This alternative provides a baseline for evaluating the changes and impacts of the other action alternatives.

The Park Service would continue to manage Washita as it has since its establishment, relying on existing plans. No major new construction would be authorized and no major changes would be made in managing the park.

Administrative and limited visitor facilities would continue to be offsite in the town of Cheyenne. Visitors would receive information about the park from this office and could tour the state-operated museum nearby to get additional information about the Washita event. The only visitor access to the site would be from the overlook area where a mowed interpretive trail would lead visitors onto the site, which would have descriptions of the historical events and resources of the immediate area.

GENERAL MANAGEMENT STRATEGIES

Site staff would continue to follow all of the desired conditions and strategies described earlier in "Mandates, Policies, and Practices."

GENERAL CULTURAL AND NATURAL RESOURCE MANAGEMENT STRATEGIES

As with the general management strategies the staff would continue to follow all of the desired conditions and strategies described earlier in "Mandates, Policies, and Practices." This would include the current resource inventories and monitoring programs and revegetation efforts.

VISITOR USE MANAGEMENT STRATEGIES

Site managers would follow the policies and practices that were identified in the "Mandates, Policies, and Practices" chapter.

IMPLEMENTATION

Park managers would continue to implement the management strategies described under this alternative and under the "Mandates, Policies, and Practices" chapter over the next 15 to 20 years as funding became available. The National Park Service could establish partnerships with other agencies or groups to implement these actions; however, management emphases and related staffing allocations would be retained as identified in approved documents, such as the Washita "Resource Management Plan."

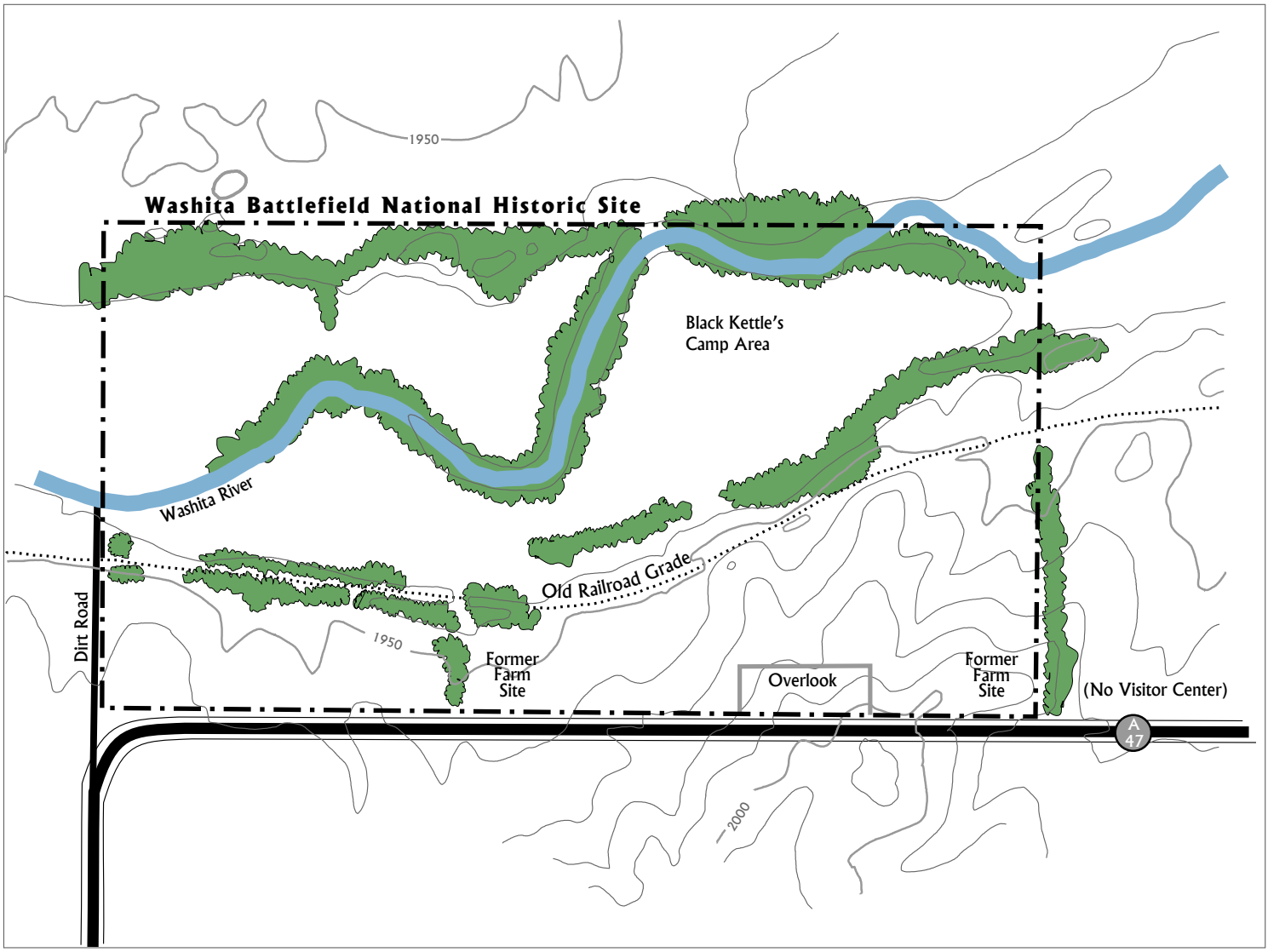
COST IMPLICATIONS

This alternative would be the least expensive for the National Park Service to implement because it does not require any new development actions, and thus the Park Service would not incur additional costs beyond those of current operations.

TABLE 2: RELATIVE COSTS FOR NO-ACTION (COSTS IN FY 2000 DOLLARS)

Operation Cost	$103,344[1]
Staffing Cost	$264,656[2]
Total Costs	**$368,000**

1. Operation costs include costs for studies, current resource inventories, as well as utilities, rent, etc.



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Existing Conditions/No Action

Washita Battlefield National Historic Site

United States Department of the Interior/National Park Service

DSC / Aug 00 / 023 / 20003

THE PREFERRED ALTERNATIVE

The preferred alternative is the plan the National Park Service is proposing to implement for Washita Battlefield National Historic Site over the next 15 to 20 years. Like all of the alternatives, the preferred alternative is intended to safeguard the future diversity of park resources and the quality of visitor experiences.

Visitors would have opportunities to participate in a variety of activities, ranging from social to self-discovery experiences. Unlike the no-action alternative, park managers would make several changes to proactively address impacts that would result from increased visitor use levels. Management zones would be applied throughout the park to identify desired resource and visitor experience conditions. Park managers would allow continued increases in overall park visitation but could limit visitation numbers in certain areas to satisfy zone conditions if need be.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

Environmentally preferable is defined as "the alternative that will promote the National environmental policy as expressed in the National Environmental Policy Act's section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment: it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources"("Forty Most Asked Questions Concerning Council on Environmental Quality's (CEQ) National Environmental Policy Act Regulations,"1981).

The environmentally preferable alternative is the preferred alternative. This action (1) maximizes protection of natural and cultural resources while concurrently attaining the widest range of neutral and beneficial uses of the environment without degradation: (2) maintains an environment that supports diversity and variety of individual choice: and (3) achieves a balance between human population and resource use.

This alternative provides the balance and flexibility necessary to protect the cultural and natural resources at Washita Battlefield National Historic Site and provide the visitor with an appropriate experience.

CONCEPT

Visitors would have opportunities for a comprehensive learning experience onsite and offsite while preserving a reflective mood at the park.

This alternative is based on an offsite visitor center combined with learning areas at the park itself. At each area the visitor's understanding of the event is incrementally enhanced, helping to build a strong sense of history and empathy for those who died here. The visitor's journey would begin at a new off-site orientation and visitor center shared with the U.S. Forest Service at its current location. Here visitors would learn about the historical chronology and back-ground of the 1868 encounter. They could observe cultural demonstrations and gardens and participate in cooperative programs presented by the National Park Service and the Forest Service. The initial stop at the visitor center would provide the background for the next stage of the journey as the visitor proceeds to the redesigned overlook.

At the redesigned and landscaped overlook the expansive views of the river, the village site, and the prairie hills would gradually draw visitors into the drama that unfolded at Washita. Waysides would help them understand the significance of the various topographic features and the progression of events, and gradually they would begin to integrate the messages they saw and heard at the visitor center with the historic scene below them.

The next stop would be a trailhead and staging area at the former house site west of the overlook. Shade, parking, water fountains, waysides, and vault toilets would be provided at the staging area. From here, waysides along a loop trail would help to incrementally broaden the visitor's understanding of the park and would provide different views of the river and the hills beyond.

At points along the trail, visitors could enter contemplative zones, where they could have the opportunity to sit quietly and view the restored landscape, imagining the cold, snowy scene along the river and on the hills beyond. To preserve the sanctity of the park, development would be low-key. The loop trail would avoid sensitive areas along the river edge and would circle around the village site. Portions of the existing railroad grade and any roads would be used for part of the trail wherever feasible. Boardwalks would be used to help protect resources and direct visitor use.

RATIONALE

To minimize development on the NPS site, the visitor/administration facility would be at a Forest Service site about 1 mile from the park. If possible the Park Service and the Forest Service would combine their facilities. If funding were not possible for a joint facility, an NPS-only facility at the Forest Service location would be pursued. The major rationale for this action would be to minimize the amount of development on the NPS site.

MANAGEMENT ZONE PRESCRIPTIONS

The following is a list of management zone prescriptions that would be used under the preferred alternative, where they would be applied, and the planned actions at each location.

Management Zones	Location(s)	Actions
Development	Overlook	Paved parking, redesigned pavilion
	Old Farm Site	Paved parking, informational kiosk, restrooms
	West End	Unpaved parking
Extended Learning	Corridor within the center of the park	Paved and unpaved trails, boardwalks, interpretive signs, benches, and shade structures.
Contemplative Area	Center of trail loop	Some benches, limited primitive trails
	West end	Benches, low-tech shade structures
	Pony kill area	Benches, low-tech shade structures, primitive trails
Conservation/ Restoration	North side of river east and west end of the park	These areas would be undeveloped and undergo restoration if need be.

GENERAL MANAGEMENT STRATEGIES

In the preferred alternative, park managers would follow all of the desired conditions and strategies described in the "Mandates, Policies, and Practices" chapter, plus several additional management directions and strategies. These strategies relate to managing cultural and natural resources in general, supplying and conserving water, and managing visitor use and various levels and types of park development.

GENERAL CULTURAL RESOURCE MANAGEMENT STRATEGY

In addition to the desired conditions and strategies described in the "Mandates, Policies, and Practices" chapter of this document, the following cultural resource management strategies would be implemented under the preferred alternative.

Within the park's development areas, designs would be compatible with the cultural landscape, respecting the original landform. Designs of structures, trails, and other facilities would be consistent throughout the park. Sensitivity to the historical and rural character of the park would be paramount. The proposed visitor center/ administrative complex would be somewhat larger than existing Forest Service structures. Thus, reducing the impacts of the new facility would be critical. Every effort would be made to reduce the visual intrusion of the building and of onsite development (trails, parking, signage, waysides) while making them inviting and accessible to visitors. The setting would be respected in scale, mass, character, and materials.

There is a Native American reburial site on the Forest Service site. Careful design of new facilities at the Forest Service area would ensure that the reburial site was not disturbed. Measures such as fencing and off-limits signage would help protect this section of the Forest Service site from traffic during construction of the new visitor facilities.

Tribes would be consulted before specific design of trails and facilities, and their advice would also be sought on appropriate means of protection for important resources. Design of facilities would provide the highest feasible level of physical access for disabled persons consistent with the preservation of significant prehistoric, historic, and ethnographic attributes.

Identification and evaluation of the park's tangible, nonrenewable cultural resources—archeological remains, cultural landscape, collections and archives—would be critical because unknown resources could not be managed effectively. Because such sites are considered potentially significant for listing on the National Register of Historic Places until they were evaluated, development activities would avoid identified cultural resources wherever possible. Tribes would be consulted when ethnographic or cultural properties of interest to them are involved.

Guided by its scope of collections statement, the park would acquire by purchase or donation relevant artifacts, photographs, field notes, oral histories, and other supporting data from various sources to establish a baseline collection for exhibits, scientific research, and public education. The park would work with the public to encourage sharing of information on artifacts and historical materials held in private collections.

Wherever possible, the park would provide for documentation and analysis of Washita Battlefield artifacts currently held in private

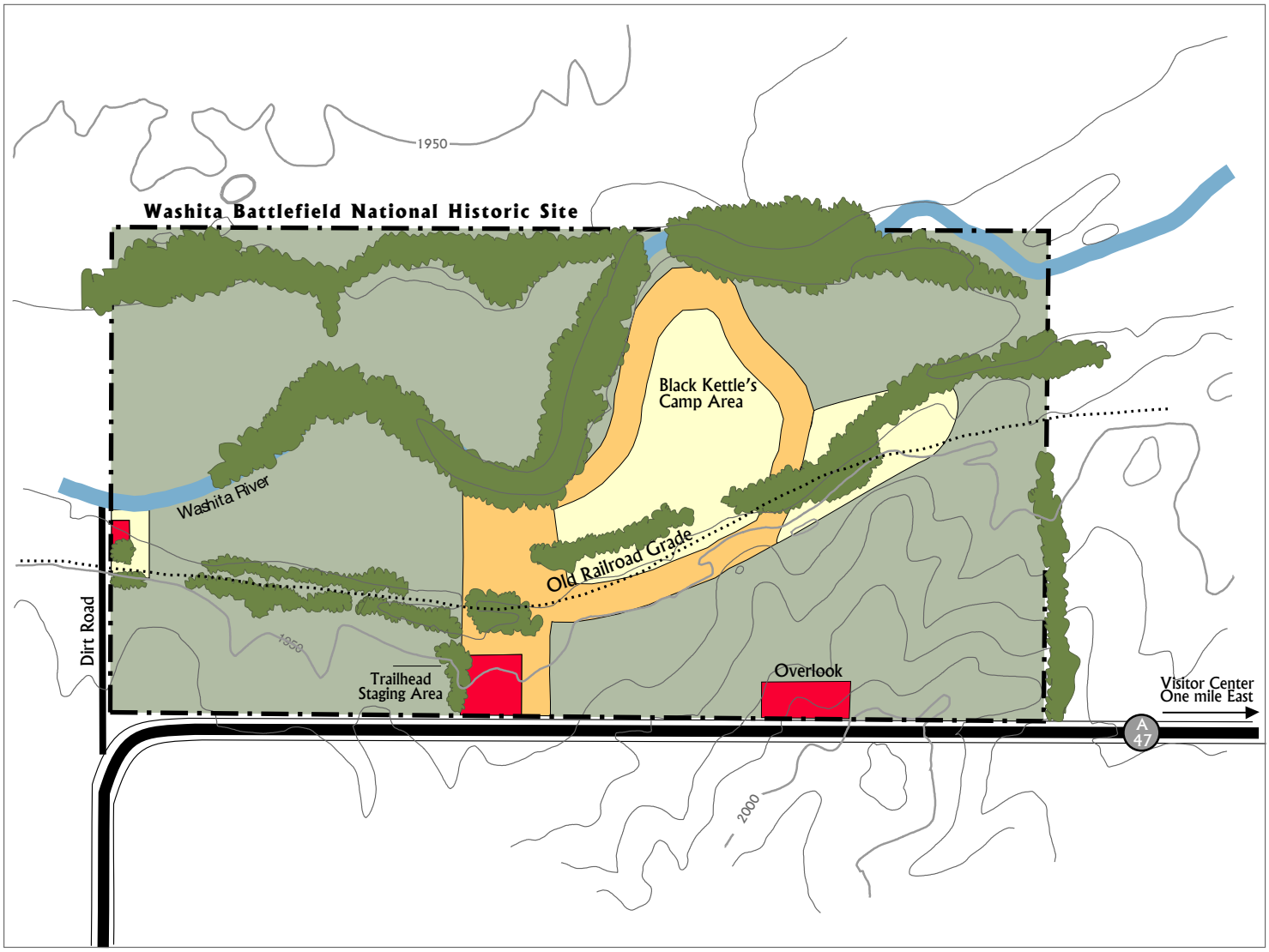
and museum collections. The park would make a concerted effort to obtain originals, copies, or microfilm of all relevant documents, photographs, and records. A future collections management plan would be developed to provide appropriate direction for management of the park's collections. An archeologist would monitor any ground-disturbing activities associated with construction of proposed interpretive trails and the trailhead/ parking area. Prior to construction of facilities at the contemplative area along the west side of the park, an archeological testing plan would be developed and implemented. Testing in this area would be needed to help ensure that intact cultural remains were not affected by proposed construction of the parking lot. Based on results of the testing, an archeologist might need to monitor construction in this area, or additional mitigation measures might need to be developed.

The footprint of the new visitor center/ administrative complex would be designed to avoid known cultural resources. Plans for the development would be provided to concerned tribes for their review to ensure that no burials nor ethnographic resources were affected by the project, and tribes would be consulted in a timely fashion regarding the scheduling of the proposed construction activities. An archeologist would monitor any ground disturbance during construction of the visitor center complex.

Appropriate stop-work provisions and provisions for borrow sources would be included in the project construction documents to minimize potential impacts on cultural resources. Work limits would be defined in areas near historic properties to prevent inadvertent damage to sites. Sensitive design and definition of work limits would prevent any project effects on the reburial sites or on other cultural resources. All contract and federal employees would receive training in protocol related to cultural resources. This would include discovery situations as well as the handling of artifacts or suspected artifacts. Workers would also be informed of the correct procedures in case previously unknown resources were uncovered during construction activities.

Should unknown resources be uncovered during construction, work would be stopped in the discovery area. The park superintendent would be notified immediately, and the contractor would be directed to work in another area. The Park Service would initiate procedures to protect resources from loss or damage, and would, as appropriate, follow provisions of the Native American Graves Protection and Repatriation Act of 1990.

If it were decided that the railroad bed should be removed, the undisturbed ground bordering the railroad bed would be surveyed using a metal detector.



Management Prescriptions

- Restoration - Conservation
- Contemplative
- Extended Learning
- Development

N

0 400 800 1200 Feet

Preferred Alternative
Dispersed Visitor Experience

Washita Battlefield National Historic Site

United States Department of the Interior/National Park Service

DSC / AUG 00 / 023 / 20006

GENERAL NATURAL RESOURCE MANAGEMENT STRATEGY

Park managers would pursue one additional general natural resource management strategy under the preferred alternative compared to the no-action. The strategy would be implementing a monitoring program upon approval of the preferred plan to measure visitor impacts on natural resources.

VISITOR USE MANAGEMENT STRATEGIES

This alternative would allow for visitor access to the park. Park staff would manage visitor use to reflect desired resource conditions and visitor experiences as expressed in the description of the management zones. The Park Service would develop indicators and standards to ensure resources and visitor experiences were not diminished by excessive or inappropriate visitor use. If standards were violated, actions would be taken to address visitor impacts, using the methods that best ensure resource protection.

IMPLEMENTATION

The National Park Service would implement new developments and management actions proposed under this alternative over the next 15 to 20 years as funding became available. The Park Service would establish partnerships with other agencies or groups to implement several actions described in this alternative.

Given adequate funding, the highest priority would be given to implement actions that serve the following functions:

- address crucial resource protection needs
- address visitor and employee safety concerns
- provide visitor facilities and interpretation

COST IMPLICATIONS

The planning team prepared general estimates of the costs for the construction of new facilities, the removal of facilities, and other actions. The team also calculated one-time staff costs associated with implementing the alternative (primarily NPS employee costs associated with construction actions and implementation planning) and annual full-time employee costs (primarily associated with operating facilities, and conducting research and monitoring).

Table 3 displays the relative costs of implementing the preferred alternative in 2000 dollars. The actual cost of implementing the preferred alternative would ultimately depend on funding by the National Park Service and Congress over the life of the plan. The cost figures shown in table 3 give a rough idea of the relative costs of the preferred alternative compared to the other alternatives. The estimates are general and should not be used for budgeting purposes. Actual costs to the National Park Service would vary depending on if and when the actions were implemented, the size and location of facilities, and contributions by partners and volunteers. Specifics about the size and location of possible developments will be decided in subsequent, more detailed planning and design. Until the restoration/revegetation plan is completed, it is not feasible to estimate the cost or maintenance of the restoration/revegetation.

TABLE 3: COSTS FOR THE PREFERRED ALTERNATIVE (COSTS IN FY 2000 DOLLARS)
RELATIVE COSTS FOR DEVELOPMENT

Area and Actions	Capital Costs/ Construction
Administrative/Visitor Center Area	
Joint VC/Admin. Bldg and Maintenance Bldg.	$ 6,972,750
Trailhead Area at NPS Site	
Parking and Trailhead Development	$ 818,549
Overlook Area at NPS Site	
Upgrade overlook and parking	$ 248,824
West side Contemplative Area	
Parking Area	$ 7,400
Total Costs	**$ 8,047,523**

ADDITIONAL ANNUAL STAFFING COSTS[1]

Job Titles	Number of Employees
Interpreters	5
Protection Ranger	1
Clerical	1
Natural and Cultural Resource	1
Computer Specialist	1
Management Support	1
Custodial	2
Exterior Maintenance	1
Maintenance worker, heating, cooling, repair	1
Total Cost	**$825,000[2]**

1. This is additional staffing to the current listed in the no-action alternative.
2. Staffing costs include salary, training, equipment, and supplies.

ALTERNATIVE A: WINDOW TO THE PAST

CONCEPT

Provide visitors with off-site learning opportunities, while preserving the reflective mood at the site.

Under this alternative most of the interpretive experience would be offsite while minimizing site disturbance and maintaining a reflective mood at the park. This would be accomplished by zoning most all of the park conservation/restoration with small areas of contemplative zoning at the overlook area and at an area on the west edge of the park. Small development areas would be at the overlook and the west end to provide for parking. Under alternative A there would be no extended learning zones onsite.

Extensive exhibits and programs available at the off-site visitor center would provide an understanding of the events that occurred in November 1868. At the visitor center, cultural demonstrations, cooperative programs with the U.S. Forest Service, and possibly a discovery trail at the park would be provided that would educate visitors about the resources of the area that were used by the Native Americans.

Landscaping and shade would be provided at the redesigned overlook. Here the expansive prairie and riverine landscape spread out below would evoke a strong sense of the 1868 scene and enhance and continue the solemn and respectful mood established by interpretive media at the visitor center.

The historic scene at the overlook and surrounding contemplative area would provide a visual window into the past and opportunities to reflect on the nature of this encounter.

This alternative would emphasize the deep sense of respect and caring Native Americans have for the area. From the immediate vicinity of the overlook, visitors would be able to view the area along the river and the hills that hid the soldiers' advance. The restoration of the prairie ecosystem to the period of Black Kettle's camp would help visitors visualize the events that occurred here. The disturbed areas formerly occupied by homesites would be revegetated with native species. Most of the park would be preserved as untrailed expanses and unfragmented natural systems. Visitation would be managed with the goal of providing a quality, but limited, experience at and near the overlook, while maintaining a sense of dignity and respect for those who died here.

Waysides at the overlook would help tell the story. The natural quiet and solemn setting would be enhanced by having most facilities offsite in a relatively less sensitive area nearer the town of Cheyenne at the Forest Service site.

Consistent with this concept, efforts would be made to provide a broad range of educational offerings at the visitor center. By having the visitor center offsite, demonstrations of Native American crafts and traditions and cooperative programs with the Forest Service could be accommodated without intrusion on the historic site. Relatively pristine resource conditions could be restored and maintained throughout much of the park.

RATIONALE

As described in the preferred alternative, the visitor/administration facility would be about 1 mile away at the Forest Service site. This facility would be a combined NPS/USFS facility if funding allowed. If funding did not allow for a combined facility, the Park Service would pursue an NPS-only facility on the USFS site. The rationale for this alternative would be to have major development offsite and to minimize intrusions on the park.

MANAGEMENT ZONE PRESCRIPTIONS

The following is a list of management zone prescription that would be used under this alternative, where they would be applied, and the planned actions at each location.

Management Zones	Location(s)	Actions
Development	Overlook	Paved parking, redesigned pavilion
	Old Farm Site	No development
	West End	Unpaved parking
Extended Learning	***Zone is not applied in this alternative***	
Contemplative Area	Surrounding the overlook area	Some benches, limited primi-tive trails
	West end	Benches, low-tech shade structures
Conservation/ Restoration	North side of river east and west end of the park	These areas would be undeveloped and undergo restoration if need be.

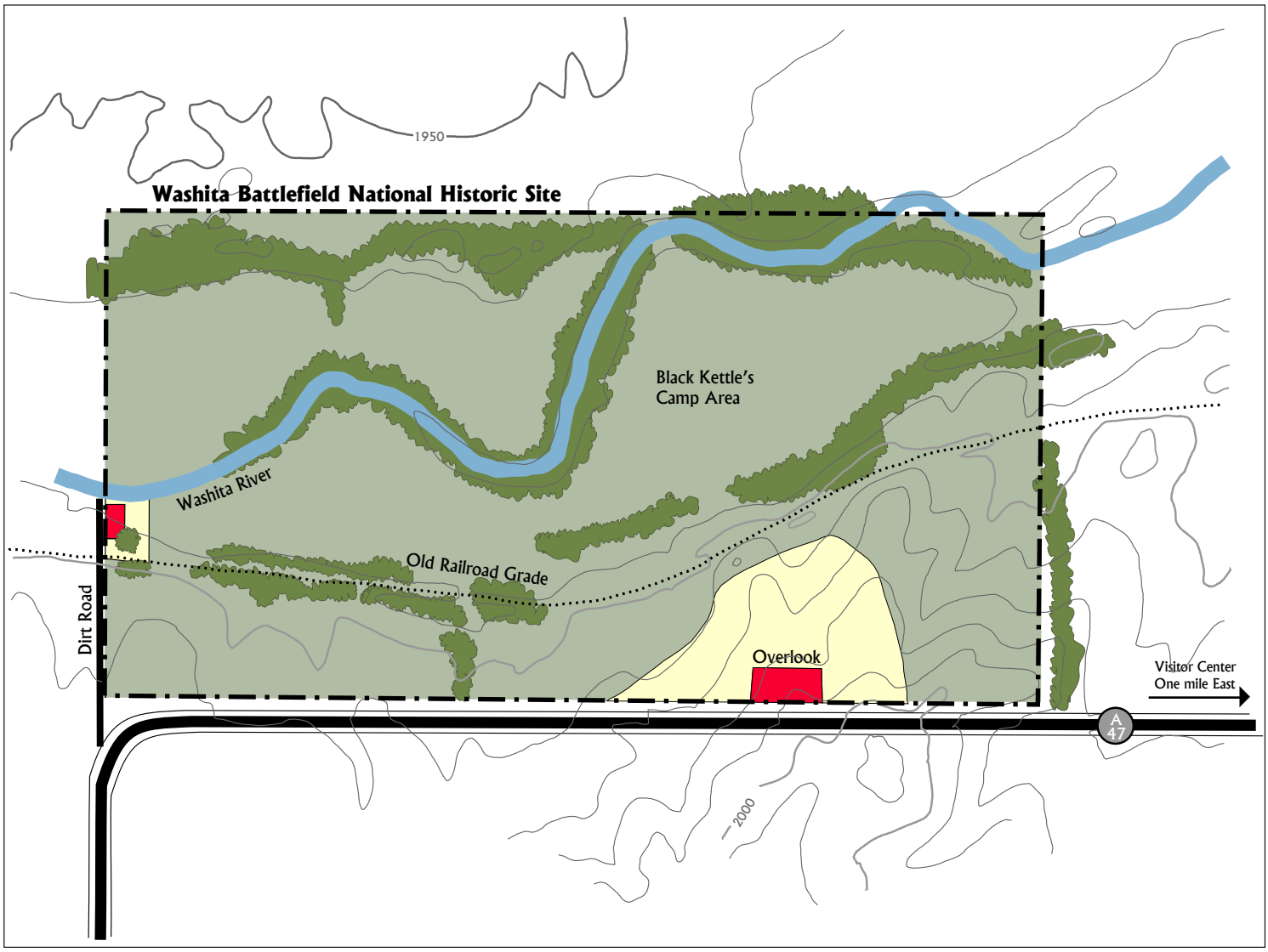
GENERAL MANAGEMENT STRATEGIES

In addition to all of the desired conditions and strategies described in the "Mandates, Policies, and Practices" chapter, park managers would follow several other management directions and strategies under alternative A. These general management strategies would be the same as those described under the preferred alternative. That is, park managers would implement the same strategies for both alternatives with regard to general cultural and natural resource management, air quality, water supply and conservation, visitor use management, and levels and types of park development. Alternative A differs from the preferred alternative in that alternative A proposes a different zoning scheme, and park managers would follow different zone-specific management strategies.

GENERAL CULTURAL RESOURCE MANAGEMENT STRATEGY

In addition to the statements in the "Mandates, Policies, and Practices" chapter of this document, the management strategies and mitigation measures described for the preferred alternative would apply to this alternative. Archeological testing would precede construction along the west edge of the park.

Depending upon findings from archeological testing, an archeologist might choose to monitor construction here, or other mitigating measures might need to be developed. An archeologist would monitor ground-disturbing work at the offsite visitor center complex.



Management Prescriptions

- Restoration - Conservation
- Contemplative
- Development

N

0 400 800 1200 Feet

Alternative A
Window into the Past

Washita Battlefield National Historic Site

United States Department of the Interior/National Park Service

DSC / Aug 00 / 023 / 20004

GENERAL NATURAL RESOURCE MANAGEMENT STRATEGY

As in the preferred alternative, park managers would pursue the implementation of a monitoring program to measure visitor impacts on natural resources.

VISITOR USE MANAGEMENT STRATEGIES

This alternative would limit visitors to the overlook area. Park staff would manage visitor use to reflect desired resource conditions and visitor experiences as expressed in the description of the management zones. The Park Service would develop measures (indicators and standards) to ensure resources and visitor experiences were not damaged or diminished by excessive or inappropriate visitor use. If standards were violated, actions would be taken to address visitor impacts, using the methods that best ensure resource protection.

IMPLEMENTATION

Like the preferred alternative, the Park Service would implement actions under alternative A over the next 15 to 20 years as funding became available. Park managers could establish partnerships with other agencies or groups to implement several of these actions and would need to increase staff within park programs to support the implementation of this alternative. Project priority would be based on the criteria listed under the preferred alternative.

COST IMPLICATIONS

Table 4 displays the relative costs of implementing alternative A in 2000 dollars. The table shows general estimates of the costs for constructing new facilities, removing facilities, and conducting other actions under alternative A. The table also displays one-time costs associated with implementing the alternative (primarily NPS employee costs associated with construction actions and implementation planning) and annual full-time employee costs (primarily associated with operating facilities and conducting research and monitoring).

The cost figures are only intended to give a very rough idea of the relative costs of alternative A compared to the other alternatives. All of the caveats regarding the cost figures described under the preferred alternative also apply to alternative A. Until the restoration/revegetation plan is completed, it is not feasible to estimate the cost or maintenance of the restoration/ revegetation.

TABLE 4: COSTS FOR ALTERNATIVE A

RELATIVE COSTS FOR DEVELOPMENT

Area and Actions	**Capital Costs/ Construction**
Administrative/Visitor Center Area	
Joint VC/Admin. Bldg and Maintenance Bldg.	$ 6,972,750
Overlook Area at NPS Site	
Upgrade overlook and parking	$ 408,699
Westside Contemplative Area	
Parking Area	$ 7,400
Total Costs	**$ 7,388,849**

ADDITIONAL ANNUAL STAFFING COST[1]

Job Titles	**Number of Employees**
Interpreters	5
Protection Ranger	1
Clerical	1
Natural and Cultural Resource	1
Computer Specialist	1
Management Support	1
Custodial	2
Exterior Maintenance	1
Maintenance worker, heating, cooling, repair	1
Total Cost	**$825,000[2]**

1. This is additional staffing to the current listed in the no-action alternative.
2. Staffing costs include salary, training, equipment, and supplies.

ALTERNATIVE B: INTEGRATED VISITOR EXPERIENCE

CONCEPT

Provide visitors with onsite learning opportunities through integration of visitor facilities with the historic scene.

The goal of this alternative would be to provide a diverse but integrated range of onsite visitor experiences while respecting park resources.

Thoughtful, nonintrusive integration of facilities such as a visitor center, trails, and waysides into the historic scene would provide continuity in the visitor experience. Visitors could stop first at the overlook where the scenic view and interpretive waysides would introduce them to the park. The overlook would be redesigned to minimize its impact on the historic scene. Visitors would then proceed to the visitor center, which would be located on a previously disturbed house site west of the overlook. Here they would receive an orientation to the events that led to the attack on the Cheyenne winter village on the Washita. Space would be provided inside the visitor center for cultural demonstrations.

From the visitor center, loop trails of varying length and difficulty would channel visitors to important topographic and historic places situated across the park. Trails and interpretive materials would provide opportunities for visitors to experience the park briefly or more in depth.

An accessible trail would lead down to the river, where the visitor could get a closer view of the river, the village site, and the hills that sheltered the soldiers. A more primitive/rustic loop trail, 1.5 miles in length, would take the visitor across the Washita River to the high ground on the north where they could experience an entirely different perspective of the military approach to the Indian village. These trails would be sited to avoid sensitive resources and areas where people were killed or fled from their attackers. Shaded benches would provide a quiet place to reflect on the events and on the loss of life that occurred here. Much of the village site and center of the park would be zoned for contemplative use, providing visitors an opportunity to sit quietly, imagine, and reflect on the events of 1868.

Restoration of the prairie and the river corridor would be given a high priority. Restoration of the historic scene would help give visitors a sense of place, allowing them to feel they have traveled back in time to revisit and understand the past. The railroad grade would be removed except in selected areas where it would be used as part of the trail system.

RATIONALE

The major action of this alternative would be to locate the visitor/administration facility onsite at the former farm location. This facility would be an NPS-only facility. The rationale for this alternative would be to have all facilities on NPS land and to minimize the number of times a visitor would have to stop with their vehicle. This alternative would also allow for visitor access onto the park.

MANAGEMENT ZONE PRESCRIPTIONS

The following is a list of management zone prescriptions that would be used under this alternative, where they would be applied, and what type of facilities would be at each location.

Management Zones	Location(s)	Actions
Development	Overlook	Paved parking, redesigned pavilion
	Old Farm Site	NPS visitor/ administration facilities, paved parking, informational kiosk, restrooms
	West End	Unpaved parking
Extended Learning	Corridor within the center of the park	Paved and unpaved trails, boardwalks, interpretive signs, benches, and shade structures.
Contemplative Area	Center of trail loop	Some benches, limited primitive trails
	West end	Benches, low-tech shade structures
Conservation/ Restoration	North side of river east and west end of the park	These areas would be undeveloped and undergo restoration if need be.

GENERAL MANAGEMENT STRATEGIES

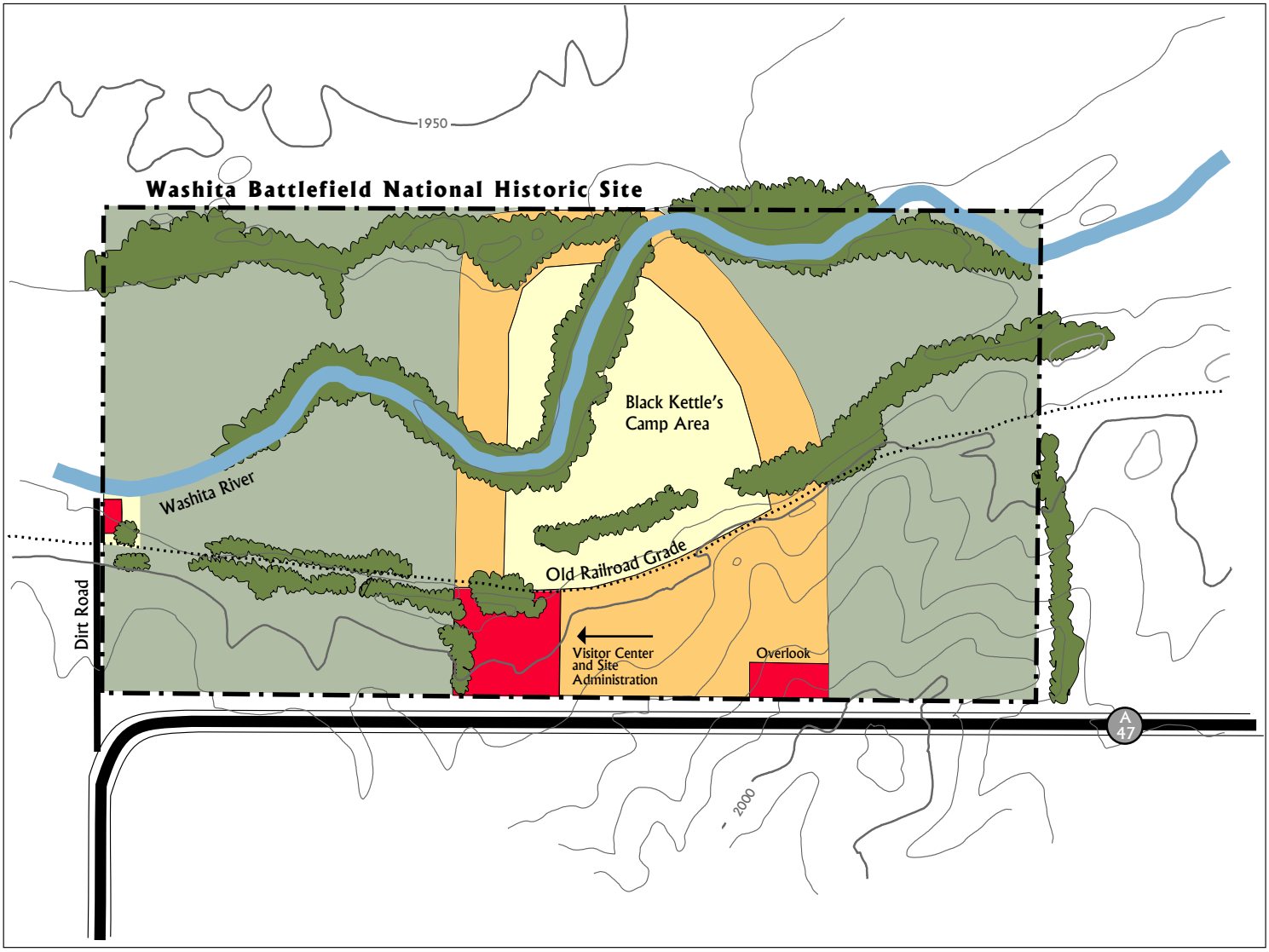
In addition to all of the desired conditions and strategies described in the "Mandates, Policies, and Practices" chapter, park managers would follow several other management directions and strategies under alternative B. These general management strategies would be the same as those described under the preferred alternative. That is, park managers would implement the same strategies for both alternatives with regard to general natural resource management, air quality, water supply and conservation, visitor use management, and levels and types of park development. Alternative B differs from the preferred alternative in that alternative B proposes a different zoning scheme, and park managers would follow different zone-specific management strategies.

GENERAL CULTURAL RESOURCE MANAGEMENT STRATEGY

The management strategies and mitigation measures described for the preferred alternative would apply to this alternative, as would the statements in the "Mandates, Policies, and Practices" chapter of this document. Archeological testing would precede construction along the west edge of the park, and, if appropriate, an archeologist would monitor construction in this area as well as at the onsite visitor center complex.

GENERAL NATURAL RESOURCE MANAGEMENT STRATEGY

As in the two other action alternatives, park managers would pursue one additional general natural resource management strategy. The strategy would be implementation of a monitoring program upon approval of the proposed plan to measure visitor impacts on natural resources and would follow all of the natural resource mitigation measures described in the "Mandates, Policies and Practices" chapter.



Management Prescriptions

- Restoration - Conservation
- Contemplative
- Extended Learning
- Development

N

0 400 800 1200 Feet

Alternative B
Integrated Visitor Experience

Washita Battlefield National Historic Site

United States Department of the Interior/National Park Service

DSC / Aug 00 / 023/20005

VISITOR USE MANAGEMENT STRATEGIES

Park staff would manage visitor use to reflect desired resource conditions and visitor experiences as expressed in the description of the management zones. The Park Service would develop measures (indicators and standards) to ensure resources and visitor experiences were not impaired by excessive or inappropriate visitor use. If standards were violated, actions would be taken to address visitor impacts, using the methods that would best ensure resource protection such as reducing the number of visitors.

IMPLEMENTATION

Like the preferred alternative, the Park Service would implement actions under alternative B over the next 15 to 20 years as funding became available. Park managers could establish partnerships with other agencies or groups to implement several actions and would need to increase staff within park programs to support the implementation of this alternative. Project priority would be based on the criteria listed under the preferred alternative.

COST IMPLICATIONS

Table 5 displays the relative costs of implementing alternative B in 2000 dollars. The table shows general estimates of the costs for constructing new facilities, removing facilities, and conducting other actions. The table also displays one-time costs associated with implementing the alternative (primarily NPS employee costs associated with construction actions and implementation planning) and annual full-time employee costs (primarily associated with operating facilities and conducting research and monitoring).

The cost figures give a rough idea of the relative costs of alternative B compared to other alternatives. The caveats regarding the costs described under the preferred alternative also apply to alternative B. Until the restoration/revegetation plan is completed, it is not feasible to estimate the cost or maintenance of the restoration/revegetation.

TABLE 5: COSTS FOR ALTERNATIVE B

RELATIVE COSTS FOR DEVELOPMENT

Area and Actions	**Capital Costs/ Construction**
Administrative/Visitor Center Area	
Joint VC/Admin. Bldg and Maintenance Bldg.	$ 7,197,634
Overlook Area at NPS Site	
Upgrade overlook and parking	$ 270,324
Westside Contemplative Area	
Parking Area	$ 7,400
Total Costs	**$ 7,475,358**

ADDITIONAL ANNUAL STAFFING COST[1]

Job Titles	**Number of Employees**
Interpreters	5
Protection Ranger	1
Clerical	1
Natural and Cultural Resource	1
Computer Specialist	1
Management Support	1
Custodial	2
Exterior Maintenance	1
Maintenance worker, heating, cooling, repair	1
Total Cost	**$825,000**[2]

MITIGATION MEASURES

The following mitigation measures would be applied to avoid or minimize potential impacts on natural and cultural resources from construction activities, visitor use, and park operations. These measures would apply to all alternatives.

CULTURAL RESOURCES

- Tribes would be consulted before specific design of trails and facilities, and their advice would also be sought on appropriate means of protection for important resources. Design of facilities would provide the highest feasible level of physical access for disabled persons consistent with the preservation of significant prehistoric, historic, and ethnographic attributes.

- Identification and evaluation of the park's tangible, nonrenewable cultural resources — archeological remains, cultural landscape, collections, and archives — would be critical because unknown resources could not be managed effectively. Because such sites are considered potentially significant for listing on the National Register of Historic Places until they are evaluated, development activities would avoid identified cultural resources wherever possible. Tribes would be consulted when ethnographic or cultural properties of interest to them are involved.

- There is a Native American reburial site on the Forest Service site. If it were decided to construct at the Forest Service area, careful design of new facilities would ensure that the reburial site was not disturbed. Measures such as fencing and off-limits signage would help protect this section of the Forest Service site from traffic during construction of the new visitor facilities.

- An archeologist would monitor any ground-disturbing activities associated with construction of proposed interpretive trails and the trailhead/ parking area. Prior to construction of facilities at the contemplative area along the west side of the park, an archeological testing plan would be developed and implemented. Testing in this area would be needed to help ensure that intact cultural remains are not affected by proposed construction of the parking lot. Based on results of the testing, an archeologist might need to monitor construction in this area, or additional mitigation measures might need to be developed.

- The footprint of the new visitor center/administrative complex would be designed to avoid known cultural resources. Plans for the development would be provided to concerned tribes for their review to ensure that no burials or ethnographic resources were affected by the project, and tribes would be consulted in a timely fashion regarding the scheduling of the proposed construction activities. An archeologist would monitor any ground disturbance during construction of the visitor center complex.

- Appropriate stop-work provisions and provisions for borrow sources would be included in the project construction documents to minimize potential impacts on cultural resources. Work limits would be defined in areas near

historic properties to prevent inadvertent damage to sites. Sensitive design and definition of work limits would prevent any project effects on the reburial sites or on other cultural resources. All contract and federal employees would receive training in protocol related to cultural resources. This would include discovery situations as well as the handling of artifacts or suspected artifacts. Workers would also be informed of the correct procedures in case previously unknown resources were uncovered during construction activities.

- Should unknown resources be uncovered during construction, work would be stopped in the discovery area. The park superintendent would be notified immediately, and the contractor would be directed to work in another area. The NPS would initiate procedures to protect resources from loss or damage, and would, as appropriate, follow provisions of the Native American Graves Protection and Repatriation Act of 1990.

- The park staff would continue to develop inventories for and oversee research about archeological, historical, and ethnographic resources to better understand and manage their resources. Cultural resources and collections would continue to be managed following federal regulations and NPS guidelines. The park's collection would be inventoried and kept in a manner that would meet NPS curatorial standards for protecting and preserving artifactual materials.

- All mitigation measures would be undertaken in consultation with the Oklahoma State Historic Preservation Office, the Advisory Council on Historic Preservation, and the associated Native American tribes on all projects that involve ground disturbance, impact ethnographic resources or cultural landscapes.

- A collection management program would be prepared and implemented according to National Park Service standards to guide protection, conservation, and use of museum objects. All objects would be accessioned and cataloged. Archival and manuscript material would be surveyed, accessioned, cataloged, arranged, and described, and finding aids produced.

- Objects housed in repositories/ institutions outside the national historic site would be preserved, protected, and documented according to National Park Service standards and procedures.

NATURAL RESOURCES

- Park resources, including air, water, soils, vegetation, and wildlife, would be inventoried and monitored to avoid or minimize impacts of future development.

- New facilities would be built in previously disturbed areas or in carefully selected sites with as small a construction footprint as possible.

- All new developments (not tied to an approved plan) would be designed to be temporary and reversible.

- New facilities would be built on soils that were suitable for development. Soil erosion would be minimized by limiting the time that soil was left exposed and by the use of various

erosion control measures, such as erosion matting or silt fencing. Once work was completed, construction areas would be revegetated with native plants in a timely period.

- To prevent water pollution during construction, erosion control measures would be used and equipment would be regularly inspected for leakage of petroleum and other chemicals.

- A runoff filtration system would be built to minimize water pollution from parking areas.

- Areas used by visitors (e.g., trails) would be monitored for signs of native vegetation disturbance. Public education, revegetation of disturbed areas with native plants, erosion control measures, and barriers would be used to control potential impacts on plants from trail erosion or social trailing.

- River access/crossing points would be designated, and barriers, and closures would be used to prevent trampling and loss of riparian vegetation.

- A variety of techniques would be employed to reduce impacts on wildlife, including visitor education programs, restrictions on visitor activities, and ranger patrols.

TABLE 6: SUMMARY OF ALTERNATIVES

Topic	NO-ACTION	PREFERRED ALTERNATIVE	ALTERNATIVE A	ALTERNATIVE B
Concept	The park would be managed as it has since establishment, relying on current plans. No major new construction authorized; no major changes in managing the park.	Visitors would have a comprehensive learning experience onsite and offsite. An offsite visitor center would be shared with the Forest Service.	Visitors would be given offsite learning opportunities while preserving the reflective mood onsite.	Visitor facilities would be integrated with the historic scene to provide onsite learning opportunities.
Cultural Resources	The interim operating plan (1996), strategic plan (1998), and NPS policies and plans would continue to be used to protect cultural resources.	Same as no-action. In addition • ground-disturbing activities would be monitored. • the Native American reburial site on Forest Service site would be protected. • the new visitor center/ administrative complex would be designed to avoid known cultural resources.	Same as preferred alternative.	Same as preferred alternative. In addition, construction would be monitored at the onsite visitor center complex.
Natural Resources	The interim operating and strategic plans and NPS policies and plans would continue to be used to protect natural resources.	Same as no-action alternative. In addition, a monitoring program would be implemented (after GMP approved) to measure visitor impacts on natural resources.	Same as the preferred alternative.	Same as preferred alternative.
Visitor Use	Administrative and limited visitor facilities would continue to be offsite in Cheyenne; only visitor access to site would be from overlook area.	Visitors would be allowed access onto the site; the learning experience would be onsite and offsite. The visitor/administration facility would be at a Forest Service site. Extensive exhibits and programs would be offsite. Possible discovery trail would educate visitors. Small development areas would be at the overlook and west end.	Limited visitor access to site. The visitor/administration facility would be at a Forest Service site. Extensive exhibits and programs would be offsite. Possible discovery trail would educate visitors. Small development areas would be at the overlook and west end.	Nonintrusive integration of facilities would provide continuity in the experience. Visitor center/administration facilities at old farm site.
Costs	**$368,000**	**$8,047,523**	**$7,388,849**	**$7,475,358**

TABLE 7: SUMMARY OF IMPACTS

IMPACT TOPIC	NO-ACTION ALTERNATIVE	PREFERRED ALTERNATIVE	ALTERNATIVE A	ALTERNATIVE B
Cultural Resources	**Archeology.** Minor, long-term adverse impacts on archeo-logical resources could be caused by lack of NPS onsite presence. Moderate long-term adverse cumulative impacts would result from hobby collecting, development and agricultural practices. **Cultural Landscape.** Minor, long-term, adverse impacts would occur on cultural landscape. **Ethnography.** Minor to moderate, long-term adverse impacts would occur to ethnographic resources because of lack of NPS law enforcement and because of diminished quality of visitor experience and subsequent change in tribal cultural practices. **Collections:** Moderate, long-term, adverse impacts would occur due to inadequate curatorial and research facilities, and due to reduction of the park's ability to acquire research materials.	**Archeology.** Long-term, negligible to minor, adverse impacts on archeological resources would result from natural processes, unauthorized collecting, visitor use, prairie restoration, and construction. Cumulative adverse impacts from development, agricultural uses, and hobby collecting would be moderate and long term, however, increased stewardship would reduce these cumulative impacts marginally. **Cultural Landscape**. Long-term impacts would be minor and beneficial to cultural landscape. **Ethnography**. There would be minor, long-term beneficial impacts on ethnographic resources within the park by locating the visitor center offsite, increasing public understanding, and demonstrating respect for tribal concerns. Cumulatively there would still be a long-term, minor to moderate adverse effect on the traditional values of Indian tribes, but these impacts would be tempered by improved access for tribes and increased visitor understanding. **Collections:** Implementation of this alternative would have a long-term, moderate, beneficial effect on collections through improved accountability, curation, and access for researchers. Over time, cumulative impacts would be minor and beneficial, due to the same reasons.	**Archeology**. Long-term adverse impacts on archeological resources from unauthorized collecting, development, and natural processes would be negligible. Cumulative impacts on archeological resources from collecting, development, natural processes, and agricultural uses would be long term, moderate, and adverse. **Cultural Landscape.** Long-term impacts on the landscape would be both adverse and beneficial. Restoration activities would have long-term, moderate beneficial impacts. The overlook and west side contemplative area would intrude on the cultural landscape of the park, resulting in a minor long-term adverse impact, but mitigating measures would help reduce these impacts. New facilities at the Forest Service site would have a long-term, adverse effect on the historic scene. Long-term cumulative impacts on the landscape would be moderate and adverse but these impacts would be somewhat reduced through beneficial park restoration activities and cooperation with neighbors. **Ethnography**. There would be an improvement in visitor appreciation for and understanding of American Indian concerns and traditions, resulting in long-term, minor beneficial impacts on ethnographic resources. Cumulatively there would still be a long-term, moderate adverse effect on the traditional values of Indian tribes, but these impacts would be tempered by improved access for tribes and increased visitor understanding of American Indian concerns. **Collections.** There would be a long-term, moderate beneficial effect on collections, including archival materials. Cumulative impacts would also be long-term, minor to moderate, and beneficial.	**Archeology.** Interpretive messages and law enforcement presence would decrease potential for unauthorized collecting so long-term adverse impacts to archeological resources would be negligible to minor. Increased presence of park personnel would result in negligible, long-term, adverse impacts on archeological sites from natural processes. A variety of mitigating measures would help ensure that facility development would have only minor long-term adverse impacts on archeological resources. **Cultural Landscape.** Construction would cause short-term moderate adverse impacts on the cultural landscape. Long-term impacts on the landscape would be both adverse and beneficial. New facilities at the Forest Service site would have a long-term, negligible beneficial effect on the historic scene. Prairie restoration would have long-term, minor beneficial impacts on the park and the surrounding NHL district by removing some intrusions and restoring the prairie. **Ethnography**. Long-term moderate beneficial impacts would result due to improved tribal access and public understanding of Indian concerns. On the other hand, American Indians might not have the privacy they desire to conduct their religious and commemorative activities, resulting in long-term minor adverse impacts. Beneficial cumulative impacts would be reduced slightly because with an onsite visitor center there would be more potential for disturbances to ceremonies which might eventually result in broader changes in tribal practices. **Collections.** A long-term, moderate, beneficial effect on collections would occur through improved accountability, curation and access for researchers. Over time, cumulative impacts would be minor and beneficial, due to the same reasons.
Natural Resources	**Soils.** Restoration of natural topography and stabilization of previously disturbed land with natural vegetation would result in overall positive long- term benefits to park soils.	**Soils.** Long-term, minor impacts to soil resources would occur adjacent to trail edges and as a result of off-trail use within the "extended learning" and "contemplative" management zones. Restoration of natural topography and the stabilization of previously disturbed lands with native vegetation would result in long-term beneficial impacts for the park as a whole.| A total of 11.5 acres of land would be disturbed at the Forest Service site for development of a visitor/ administration and maintenance facility. There would be approximately 0.75 mi. of utility lines for water and sewage connection to the city, which would disturb about 0.25 acres.	**Soils.** Permanent soil loss would occur as a result of construction of the offsite visitor center. Very localized moderate, long-term impacts (predominately soil compaction) would occur in association with the development of the small unpaved parking facility at the west end of the park. Minor short- and long-term impacts would occur through vegetation loss, soil compaction, and localized erosion as a result of primitive trail development within the identified "contemplative" zone. These impacts would be substantially less than existing conditions due to the limited area identified for onsite visitor access. A total of 11.5 acres of land would be disturbed at the Forest Service site for development of a visitor/Administration and maintenance facility. There would be approximately 0.75 mi. of utility lines for water and sewage connection to the city, which would disturb about 0.25 acres.	**Soils.** Permanent loss of soil resources would occur as a result of onsite visitor center and associated parking lot development. Long-term, minor to moderate, adverse impacts to soil resources would occur in areas associated with onsite trail expansions. Impacts to soil resources would be partially mitigated; however, mitigation measures would not be as effective as in the no-action alternative due to the larger land area exposed to visitor use/impact. Restoration actions would provide overall, moderate, long-term benefits to soil resources through stabilization of existing disturbed sites with native vegetation. A total of 10 acres of land would be disturbed at the Forest Service site for development of a visitor/ administration and maintenance facility. There would be approximately 1.4 mi. of utility lines for water and sewage connection to the city, which would disturb about 0.5 acres.

Impact Topic	No-Action Alternative	Preferred Alternative	Alternative A	Alternative B
	Air Quality. Short-term minor to moderate impacts to air quality would occur as a result of prescribed burning and other restoration activities. **Vegetation.** Localized minor to moderate, long-term beneficial impacts to native vegetation would occur near visitor use areas. Restoration activities and active weed management throughout the park would result in major, long-term benefits to park vegetation resources. **Wildlife.** There would be minor to moderate, short-term negative impacts to wildlife resources. **Natural Soundscape.** Minor, predominately short-term, adverse impacts would occur to natural soundscapes as a result of offsite noises and increased visitation..	**Air Quality.** Overall minor, long-term adverse impacts would occur to localized air quality and visibility as a result of increased visitation and associated vehicle emissions. Short-term (1-2 days), minor to moderate impacts to air quality would occur as a result of prescribed burning and other restoration activities that require ground disturbance (e.g., creation of fugitive dust). **Vegetation.** Localized, minor, long-term impacts would occur to vegetation resources. Adverse impacts associated with proposed visitor use would include vegetation trampling and loss, soil compaction and erosion, and the unintentional spread of non-native plant species. These impacts would increase as the level of habitat fragmentation increased. Overall, long-term benefits to parkwide vegetation resources would occur as a result of planned restoration actions. Plant restoration would create overall benefit to plant communities; however, there would be some moderate, long-term, adverse impacts to vegetation resources. **Water Quality.** Localized, minor to seasonally moderate, long-term, adverse impacts to surface waters would occur near the visitor parking facilities as a result of runoff of petroleum-based materials associated with increased onsite vehicle use. Overall, long-term beneficial impacts to water quality would occur as restoration activities progressed, reducing rates of sediment and surface water runoff. **Wildlife.** There would be predominately minor, short-term, adverse impacts to various wildlife species that live in or travel near the park area. Impacts would be most notable during periods of onsite trail and parking development and during peak visitation. There would be overall long-term, substantial benefits to wildlife species as a result of restoration and the enhancement of habitats for wildlife use. **Natural Soundscape.** Minor to major, short-term disturbances to natural soundscapes would be experienced during peak visitation and during construction activities.	**Air Quality.** There would be minor, long-term adverse impacts to localized air quality and visibility as a result of increased visitation and vehicle emissions. Short-term (1-2 days), minor to moderate impacts to air quality would occur as a result of prescribed burning and other restoration activities that require ground disturbance. Negligible to minor, long-term impacts would occur to water quality. The highest level of native vegetation protection would occur under this alternative; minor, long-term losses to vegetation adjacent to the overlook facility. **Vegetation.** Localized, minor, long-term losses to native vegetation immediately adjacent to the overlook, west end parking facility, and associated primitive trail development would occur under alternative A. Impacts would be highly localized and would include trampling/loss of native vegetation, soil compaction, and erosion. Restoration activities and the restriction of visitor access to a much smaller area (as compared to the no-action alternative) would result in the highest levels of long-term benefits to vegetation resources. **Water Quality.** Negligible to minor, long-term adverse impacts to water quality would occur as a result of increased petroleum-based runoff from parking facilities and as a result of localized erosion related runoff adjacent to primitive trail areas. Overall, long-term beneficial impacts to water quality would occur as restoration activities progress, reducing rates of sediment and surface water runoff (e.g., increasing water retention and filtration). **Wildlife.** This alternative would result predominately in minor to moderate, short- term, adverse impacts to various wildlife species that live in or travel near the overlook and associated “contemplative” zone. Impacts would be most notable during periods of peak visitation. There would be overall long-term, major benefits to wildlife species as a result of restoration activities and limited visitor access resulting in the substantial enhancement of habitats for wildlife use. **Natural Soundscape.** The limited area identified for visitor use would have seasonal minor to moderate adverse impacts to park visitors. Increases in visitor concentrations within a smaller area would result in a diminished ability for the visitor to enjoy natural sounds.	**Air Quality.** Short-term, minor to moderate impacts to air quality and near-range visibility would occur as a result of increases in construction. Minor to moderate, long-term impacts would also be expected due to increased onsite visitor use and associated vehicle concentration. Impacts would be greatest during peak visitation. Short-term (1-2 days), minor to moderate impacts to air quality would occur as a result of prescribed burning and other restoration activities that require ground disturbance. **Water Quality.** Minor to moderate, short-term impacts to water quality would result from onsite construction activities. Long-term, minor to moderate adverse impact to water quality. Long-term beneficial impacts would occur as restoration activities progressed, reducing rates of sediment and surface water runoff (e.g. increasing water retention and filtration), but these benefits would be moderately offset by the increased visitor use impacts. **Vegetation.** Moderate, long-term, adverse impacts on vegetation would occur in association with visitor use/development areas. Although restoration activities would result in overall long-term benefits to park vegetation resources, the level of active vegetation management required to maintain healthy native plant communities would substantially increase as a result of expanded onsite visitor access and uses. **Wildlife.** Moderate to major, short- and long-term impacts would occur to various wildlife species that live on or travel near the park area. Impacts would be most severe during periods of peak visitation and/or during sensitive breeding seasons for wildlife. **Natural Soundscape.** Activities and uses would result in minor to moderate, predominately short-term, adverse impacts to natural soundscapes. Impacts would increase as the levels of park visitation increased.
Visitor Experience	Limited access to the park, inadequate orientation to the park, and minimal facilities would result in moderate, long-term, negative impacts on the visitor experience.	Visitors would have increased opportunities to learn about and experience Washita Battlefield in a setting that is compatible with the park’s significance, which would result in moderate, long-term, positive impacts on the visitor experience.	Visitors would have increased opportunities to learn about Washita Battlefield but minimal first-hand opportunities to experience the park. This alternative would result in minor**,** long-term positive impacts on the visitor experience.	Visitors would have increased opportunities to learn about Washita Battlefield and to experience the park. This alternative would result in moderate, long-term positive, impacts on the visitor experience.
Socioeconomic Environment	There would be minimal positive long-term impacts on the socioeconomic environment and a minimal negative long-term impact on road traffic in and around Cheyenne.	There would be minor to moderate, positive, short- and long-term impacts on the socioeconomic environment, with possible minor, negative, long-term impacts on road traffic in Cheyenne.	Same as the preferred alternative.	Same as the preferred alternative.

INTRODUCTION

The "Affected Environment" describes the existing environment at Washita and the surrounding region. The focus of this chapter is on key park resources, uses, and socioeconomic characteristics that have the potential to be affected by the alternatives should they be implemented. Some additional features are discussed because they provide context and/or must be considered in environmental impact statements (e.g., certain threatened and endangered species).

IMPACT TOPICS CONSIDERED IN THIS ENVIRONMENTAL IMPACT STATEMENT

To focus the environmental impact statement, the planning team selected specific impacts for further analysis and eliminated others from evaluation. A brief rationale for the selection of the topics is given below.

Cultural Resource Topics

The 1966 National Historic Preservation Act, as amended, and 36 CFR 800 require federal agencies to consider the effect of their undertakings on properties listed or eligible for listing on the National Register of Historic Places. NEPA also requires evaluation of project effects on the human environment. Washita Battlefield National Historic Site is listed on the national register and is within a larger national historic landmark district. Significant archeological resources may exist within the park and on Forest Service lands proposed for development. Cultural resources are addressed as an impact topic in this document. The four cultural resource topics analyzed are:

- Cultural Landscapes
- Archeological Resources
- Historic Resources*
- Ethnographic Resources
- Collections

(*Historic resources such as the railroad grade and culverts, homestead clearings, farm fields, and the county road will be discussed as part of the cultural landscape.)

Natural Resource Topics

The planning team selected seven natural resource impact topics for analysis based on the major values of issues identified early in the planning process, as well as to applicable federal laws, regulations, and executive orders (e.g., Endangered Species Act of 1973, as amended; Executive Order 11988 - Floodplain Management). The impact topics analyzed are as follows:

- Soils
- Local Air Quality
- Local Water Quality
- Floodplain
- Vegetation
- Wildlife
- Natural Sound

The above resources have the potential to be appreciably affected under the alternatives evaluated. In addition, some of these topics were selected because they are of special

concern (manipulation of vegetation to restore cultural and natural landscapes), are sensitive to disturbance (highly erosive soils, riparian/ floodplain communities), are of high public interest (protection of wildlife), or are key resources that can affect the biotic environment and/or park visitors (air and water quality).

Visitor Use Topic

Early in the planning process, the planning team identified visitor use as being important value or issue to the public, as well as key elements of concern to park managers, and evaluated the uses and experiences that may be appreciably affected under the alternatives. Therefore, impacts on visitor use as well as interpretation and visitor experience will be analyzed.

Socioeconomic Topics

The planning team selected the socio-economic environment as an impact topic because the park is an important part of the local economy. Analyzing the local economic impacts provides the context for evaluating the possible impacts the alternatives may have on the local area.

IMPACT TOPICS CONSIDERED BUT NOT ANALYZED IN DETAIL

Under NPS policies and Council on Environmental Quality regulations, environmental impact statements must address a number of impact topics. However, the planning team for the General Management Plan / Environmental Impact Statement, dismissed several irrelevant topics as well as topics that would remain unaffected by the alternatives. The team dismissed other topics because the potential for impacts under all of the alternatives would be negligible. These topics are addressed below.

Natural Resource Topics

Climate. No adverse impacts to climate would occur as a result of actions proposed under any of the alternatives.

Water Quantity. No measurable adverse impacts would occur to ground or surface water quantities as a result of activities in any of the alternatives. Minor, long-term improvements to surface and ground water quantities may occur as a result of restoration activities proposed under all alternatives (e.g. removal of exotic species, re-establishment of native vegetation resulting in increased water retention and permeability).

Wetlands. Only small, minor wetland habitats exist outside of the riparian and floodplain areas. These small communities are associated with minor drainages or with small seeps associated with the upland bluffs. Although no detailed surveys have been performed at these sites, they are likely to add to the overall species diversity of the park. These areas would not be impacted by activities proposed under any of the alternatives.

Threatened and Endangered Species. No federal or state listed threatened or endangered species (plant or animal) are known to exist within the national historic site. The U.S. Fish and Wildlife Service (1997) has identified the presence of four listed bird species from Roger Mills County. These species include: (1) interior least tern (*Sterna antillarum*-endangered), (2) whooping crane (*Grus americana-endangered*), (3) bald eagle (*Haliaeetus leucocephalus*-threatened), and (4) lesser prairie chicken (*Tympanuchus pallidicinctus*- candidate). It is highly

suspected that any current use of habitats within the national historic site by a listed species is infrequent and transitory. Restoration activities proposed under all of the alternatives could improve native habitats. However, the area would total area of restoration would not be large enough for any of the above species to within the park and might result in increased use by rarer species.

Prime and Unique Farmlands. There are lands that are considered prime and unique farmlands that would be impacted by activities proposed under any of the alternatives; however these lands would only undergo restoration and if necessary would be able to be returned to farmland if required in the future. No areas of prime and unique farmlands would undergo development.

Energy Requirements and Conservation Potential. As noted in "Mandates, Policies, and Practices," the National Park Service would pursue sustainable practices whenever possible in all decisions regarding park operations, facilities management, and development at Washita Battlefield.

Natural or Depletable Resource Requirements and Conservation Potential. None of the alternatives would result in the extraction of resources from the park. As noted in "Mandates, Policies, and Practices," under all of the alternatives, park staff would apply ecological principles to ensure that the park's natural resources were maintained and not damaged.

Socioeconomic Topics

Environmental Justice. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all federal agencies to incorporate environmental justice into their missions. This includes identifying and addressing disproportionately high and adverse human health or environmental effects of their programs/policies on minorities and low-income populations and communities. For the purpose of fulfilling Executive Order 12898, in the context of the National Environmental Policy Act, the planning team assessed the alternatives presented in this plan during the planning process. The team determined that none of these alternatives would result in significant direct or indirect negative or adverse effects on any minority or low-income population or community. The following information contributed to this conclusion:

The developments and actions of the alternatives would not result in any identifiable adverse human health effects. Therefore, there would be no direct or indirect negative or adverse effects on any minority or low-income population or community.

The impacts on the natural and physical environment that occur due to any of the alternatives would not significantly and adversely affect any minority or low-income population or community.

The alternatives would not result in any identified effects that would be specific to any minority or low-income community.

The planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of such factors as age, race, or income status.

Park staff members have consulted and worked with the affected American Indian tribes and would continue to do so in cooperative efforts to improve communications and resolve any problems that occur. The planning team did not identify any negative

or adverse effects that disproportionately and adversely affect the tribes.

Impacts on the socioeconomic environment due to the alternatives would be minor or positive and occur mostly within the local and regional geographic area near the park. These impacts would not occur at one time but would be spread over a number of years, thus mitigating their effects. Also, the planning team does not expect impacts on the socioeconomic environment to significantly alter the physical and social structure of the nearby communities.

CULTURAL RESOURCES

OVERVIEW OF WASHITA CULTURAL RESOURCES

Cultural resources are usually defined as tangible entities such as archeological sites, buildings, structures, objects, archeological artifacts, and landscapes that are valued by or significantly representative of a culture, or may contain significant information about a culture. The blanket term "historic properties" refers to all cultural resources considered eligible for the National Register of Historic Places, including prehistoric resources. Archeological sites and artifacts, usually found underground, may be either historic or prehistoric. Ethnographic resources are a place or property associated with the cultural practices or beliefs of a living community. These practices are rooted in that community's history, or are important in maintaining its cultural identity.

CULTURAL LANDSCAPES

The park's landscape still retains much of the feeling and basic characteristics of the 1868 setting, and few modern intrusions mar the overall effect. The unobstructed view from the overlook down to the river and to the hills beyond, the sound of the grass blowing in the wind, and the landmarks spread out below graphically capture the sense of place and a time long past.

Contributing landscape features identified here during the cultural landscape inventory include: specific topographic features and routes associated with the conflict, and the riparian, floodplain, and upland ecosystems (vegetation and wildlife characteristic of the historic period). This landscape is not limited to areas encompassed by the park boundary but visually includes the broad, scenic distant views as well. To the north and northwest the red sandstone bluffs of the Horseshoe Hills provide a rugged, colorful backdrop that helps to frame the winding river below, set jewel-like amongst a bordering strand of trees. To the south and west the rolling prairie hills culminate in a broad expanse of open sky. Looking east from the overlook area, the tree-strewn river valley loses itself in the distance among the gentle hills containing the town of Cheyenne. The downstream areas where other tribes were camped, and the probable location of Captain Elliott's stand are visible from the Forest Service area/ proposed visitor center area, giving visitors yet another dimension of understanding of the overall story.

Equally important are the intangible elements of this cultural landscape. Within the national historic site is the core area of the battlefield, an area believed to include the site of Black Kettle's encampment, Custer's command post, the pony kill site, and recently discovered troop and Indian positions. Thus the cultural landscape is more than just physical features and scenery — it also includes an intangible spiritual element. The tangible and intangible elements of the landscape combine to create a somber mood of respect and to commemorate those who died here. This is a hallowed ground with a wide range of meanings for many different groups. It is a place where people come to remember and understand the past, and reflect—each in their own way.
A reconnaissance level cultural landscape inventory has been completed for Washita (Cowley 1999). This inventory focuses on the 315-acre, NPS-owned core area. It

provides preliminary information on the chronology of landscape changes through time, landscape significance, and significant landscape characteristics. These characteristics include landscape systems (the river and riparian zone), landscape patterns such as circulation and vegetation, and landscape features (specific topographic features). Lees et al. (1997) also provides valuable information on the cultural landscape.

Washita's cultural landscape has been evaluated under National Register of Historic Places criteria and has been found nationally significant under criteria A, B, and D. In addition, Washita's significance is recognized through its inclusion as part of a 12-square-mile national historic landmark district. This district includes private lands surrounding the park on the west, north, and east (Cowley 1999). In the 1860s these lands were within both the tribal and U.S. exploration/trading/ military areas. It was a hunting and wintering area and believed to be a sanctuary from the U.S. Army for the Plains tribes. It also was part of the Cheyenne and Arapaho Reservation (Cowley 1999:2). The Washita River served as a major circulation route for Anglo-American explorers and traders as well as for Plains tribes.

Over the years since the battle a number of changes have occurred in the Washita landscape. An army memorial was placed on the site, over a Cheyenne burial, in 1890. In 1892 the Oklahoma Land Run opened the area to agriculture — the river floodplain was planted to crops, and the hills were used as pasture. Over the decades, the river has been channelized, and has shifted its course southward. The Panhandle and Santa Fe Railroad line was established through the area in 1929. During the drought years of the 1930s the hillslope below the overlook was terraced to slow runoff. During the 1950s flood control projects along the Washita River resulted in removal of trees from the floodplain, and use of the area for crops and pasture. Several farmsteads were built on the property during the 20th century. These have since been removed, and only scattered foundations and a few broken bits of farm implements and household goods remain to mark the former occupants. The memorial/overlook was constructed shortly after the area was established as a national historic landmark in 1965.

Modern intrusions on the park's landscape include the overlook, the state road (just south of the park), fencelines, the railroad grade, and homestead clearings. However, for the most part these intrusions are fairly modest, and the integrity of the area as a cultural landscape is considered high (Cowley 1999). Vegetation has grown over the railroad grade and homesteads, softening the view. Areas formerly planted to crops currently are being revegetated with native species. The state road is behind most visitors as they view the historic scene.

WASHITA'S HUMAN HISTORY

Western Oklahoma has been home to American Indians as far back as 12,000 years before present when Paleo-Indian groups roamed across the plains gathering foods and pursuing now-extinct large game animals. The sites described below are, however, likely to have been associated with more recent groups such as Woodland or Early Ceramic peoples who practiced seasonal rounds, occupied circular structures, and grew corn and beans in small plots. Or, sites within Washita may have been associated with later Custer Phase and Late Plains Woodland peoples

who built seasonal base camps, shelters, and settlements along streams such as the Washita River. These groups practiced riverbottom gardening but may have had a greater reliance on bison hunting than did previous inhabitants. Some Western Oklahoma sites also may reflect use by Kiowa or Apache groups who were moving onto the Plains from the Southwest during the 1400s to 1600s.

By about A.D. 1700 most of the inhabitants of the southern High Plains were nomadic Apaches and Comanches who followed the great herds of bison. By 1720 the Comanches had forced the Apaches out of the area. From ca. A.D. 1600 to 1800 the Wichita Indians also inhabited areas of the southern Plains, including some sites in west central Oklahoma.

During the middle of the19th century, pressures from other tribes forced the Cheyenne and Arapaho from their farming/bison hunting communities on the prairies of southern Minnesota and eastern North Dakota. These groups moved onto the plains of eastern Colorado and western South Dakota as nomadic tipi dwellers where they were joined by other tribes such as the Kiowa. Establishment of Indian Territory in eastern Oklahoma preempted former hunting grounds of several tribes, and the Cheyenne and Arapaho broadened their hunting range into Western Oklahoma. As goldseekers and settlers moved west, more traditional hunting grounds were lost, and pressure on the Cheyenne and the Arapaho from U.S. Army campaigns intensified, resulting in the 1868 conflict on the Washita River. Present-day Cheyenne peoples reside in several states. The Northern Cheyenne were moved onto a land trust reservation in 1884. The reservation, which was later expanded to 450,000 acres, is in southeastern Montana with tribal headquarters at Lame Deer.

A reservation for the Southern Cheyenne and Arapaho was established under the Medicine Lodge Treaty of 1867. In 1890 the reservation was dissolved and lands were allotted to individual tribal members whose descendents still live in the area surrounding the tribal headquarters in Concho, Oklahoma.

Settlers moved into Oklahoma in the late 1800s and early 1900s. At one time, three homesites were located within the boundaries of the monument — one in the area proposed for parking under the preferred alternative, one along the eastern border of the site, and one on the hill east of the overlook. These three sites have since been razed, and only occasional scatters of metal roofing, fragments of household debris, or concrete pieces from foundations remain. All three former homesite areas lack integrity as archeological sites and are not considered eligible for the National Register of Historic Places.

ARCHEOLOGICAL RESOURCES

Some of the areas currently within the park boundaries, along with the 40-acre tract presently occupied by the United States Forest Service headquarters for the Black Kettle National Grasslands, were surveyed between 1963 and 1970, and in 1986 by James Briscoe (Briscoe 1987). Surveys of Washita Battlefield and some adjacent areas include work done in 1995 and 1997 by the Oklahoma Historical Society, assisted by National Park Service personnel and numerous volunteers. Metal detectors were used to systematically scan the site for artifacts related to the battle (Lees et al. 1997). This project also included analysis of the Washita Valley geologic

history (Haynes 1997). Additional work was done by the National Park Service in July 1999 and March 2000. The intent of this effort was to identify sites and artifacts unrelated to the 1868 encounter and to help ensure that no significant resources would be disturbed by construction of the visitor center, work at the overlook, or in development of other facilities proposed in this *General Management Plan* (NPS 1999b; NPS 2000a and 2000b).

These surveys identified three archeological sites within Washita Battlefield National Historic Site and another adjacent site. The first was the locale of the initial conflict (Briscoe 1990; NPS 2000a). Recent surveys verified that the battle occurred within the park, and located a number of battle-related artifacts as well as the ridgeline where individual troopers stood and fired (Lees et al. 1997; NPS 2000a).

Preston and Margaret George (1978) first recorded an extensive prehistoric village site. Artifacts included ceramics, projectile points, fire-cracked rock, quarry debris, shell, and animal bone. Projectile points indicate a possible age range for the site from about A.D. 700 to A.D. 1750. A second occupation site identified in the 1990 Briscoe survey is thought to be a continuation of the village (above). Records indicate this site, containing fire-cracked rock and charcoal concentrations, is the location of Black Kettle's village, but the documentary evidence from the 1990 survey is generally lacking. Local informants indicated souvenir hunters had collected many artifacts at the site, and active cutting at the river channel suggests that much of the site had been eroded away (NPS 1999b; NPS 2000a).

A sparse lithic scatter was recorded just outside the park boundaries (Hofman 1978). However, the records indicate the site is surficial, lacking depth, and had only a limited number of flakes (NPS 1999b). Two sites were in the vicinity of the Forest Service administrative facilities. These include a small, thin, lithic scatter on a gravel outcrop overlooking Sargent Major Creek. Artifacts found at this temporary camp and quarry workshop include flakes, cores, a preform, and fire-cracked rocks (Briscoe 1987).

According to Briscoe (1987) a sandstone slab located in another part of the Forest Service site may indicate a burial. However, subsequent surveys failed to relocate the slab (Briscoe 1990; NPS 2000b). Skeletal materials found in the Cheyenne area were reinterred in the 40-acre Forest Service plot in 1987 (Briscoe 1987; NPS 2000b).

ETHNOGRAPHIC RESOURCES

Washita's ethnographic resources include both tangible and intangible elements associated with the importance of the site. For example, the Washita River and the location of Black Kettle's camp are special places to the Cheyenne and the Arapaho — areas that hold much spiritual meaning for these groups. The pony kill site is also an area of great sensitivity.

The Cheyenne oral history project by the Oklahoma Historical Society has been completed to aid the park in developing programs that are sensitive to these ethnographic concerns. An ethnographic overview and assessment is underway. In addition, a traditional use study was completed in 2000 to determine the ethnobotanical history of the site and graphically describe the landscape

conditions at the time of the Washita conflict. The study defines, as much as possible, the ecological conditions (including vegetation present in 1868), and documents the characteristic use and value of the landscape, especially vegetation by the Cheyenne and other tribes, European explorers/traders, and others at this time.

These studies will provide additional information on the tribes affiliated with Washita and help provide an understanding of the significance of the site to the various traditionally associated communities. (Traditionally associated communities also include local non-Indian communities and landowners).

HISTORIC RESOURCES

A historic resource study is currently underway (Greene in preparation) and, when completed, will provide additional information on the historic events at Washita.

National Register of Historic Places/National Historic Landmark

Washita Battlefield National Historic Site is listed in the National Register of Historic Places. The park contains the core area that was the primary focus of the battle — in particular, Black Kettle's campsite and the area where many of the Indians died, as well as the pony kill site. The 12-square-mile Washita Battlefield National Historic Landmark District includes and surrounds the park on the west, north, and east. The landmark encompasses the areas of the primary military maneuvers and approach to the river. Significance of the landmark lies in the fact that this encounter between the U.S. military and the Cheyenne marked a major turning point in the history of the Indian Wars, and resulted a fundamental, if short-lived, change in the Nation's Indian policy. The landmark boundaries include much of the viewshed to the north, east and west of the national historic site.

Collections

Approximately 190 artifacts (mostly firearms ammunition) were located during the 1995 and 1997 archeological field studies. These are currently housed at the park headquarters. A few additional artifacts collected prior to creation of the park are part of the collection at the Black Kettle Museum in Cheyenne, Oklahoma. Private collectors hold a variety of artifacts from the site.

NATURAL RESOURCES

INTRODUCTION

The national historic site lies within the western portion of the Great Plains in an area that was once almost continuous mixed and short grass prairie. Land use adjacent to the park is dominated by farming and ranching. The surrounding landscape can be classified as dry plains, steppe with gently rolling topography and moderate valley slopes (2-20%). The elevation gradient within the park ranges between 1,930-2,000 feet above mean sea level.

The climate of Roger Mills County is subhumid, temperate, and continental. It is characterized by hot summers, mild winters, relatively high wind velocities, and wide fluctuations in rainfall. Extremes in temperature range from 115^{o}F to -18^{o}F. Average annual precipitation is 25.64 inches with most of this precipitation occurring between April to August for the Cheyenne, Oklahoma area (NRCS 1963). Severe thunderstorms are common and can produce tornadoes.

GEOLOGY AND SOILS

Washita Battlefield National Historic Site lies on the southern flank of the Anadarko Basin, a large, deep, sedimentary basin. The Anadarko Basin covers approximately 50,000 square miles and contains more than 40,000 feet of Paleozoic-age sedimentary deposits. The basin covers most of western Oklahoma, southwestern Kansas, the northeastern part of the Texas Panhandle, and southeastern Colorado. It is bounded by major uplifts — the Wichita-Amarillo Uplift to the south, the Cimarron and Las Animas Arches to the west, the Central Kansas Uplift to the north, the Pratt Anticline to the northeast, the Nemaha Uplift to the east, and the Southern Oklahoma fold belt to the southeast.

The Soil Survey for Roger Mills County (NRCS 1963) identifies 10 principle soil associations within Washita Battlefield. A brief description of these soils is shown in the table below.

SOIL NAME	DESCRIPTION
Spur and Port (SpA)	a deep reddish-brown, silty-loam soil. This soils are type is typically highly fertile occurring only a few feet above the floodplain in areas of 0-1% slope.
WoodwardLoam (WoB)	a darker color soil is found typically on broad ridgetops, on foot slopes, and along drainageways in areas with 1-3% slope.
Miles-Springer complex (MxC)	the Miles soils make up 50-60% of this complex; the rest consist of Springer soils or intermediates of the two. These soils are somewhat sandy and typically occur on upland areas with 3-5% slope.
Woodward (WdC)	a fine sandy loam soil that occurs in areas with 3-5% slope. This soil is fertile and productive, but is subject to wind and water erosion when exposed.
Miles-Nobscot complex (MnD)	this complex is 70-80% Miles soil and 20-30% Nobscot soils. This complex is typically found on upland areas with 5-8% slope and the fine sandy loam to fine sand soils are highly susceptible to wind erosion.
Springer loamy fine sand, hilly (SfE)	consists of reddish-brown sandy or moderately sandy soils on uplands. This soil type is typically found on steeper upland areas and are not suited to cultivation due to severe hazard of erosion.

SOIL NAME	DESCRIPTION
Springer loamy fine sand, hummocky (SfC)	this soil type tends to be located near larger streams, on higher spots of hummocky areas. This soil also occurs on uplands of 3-5% slope and needs to be carefully managed to control wind erosion.
Yahola fine sandy loam (Ya)	this series consists of reddish, moderately sandy, calcareous soils on floodplains (<1% slope) and are typically subject to flooding.
Pratt loamy fine sand, hilly (PfE)	this fine sand soil occurs on steep slopes and are not suited to cultivation because of severe hazard of erosion.
Lincoln (Ln)	within Roger Mills county, these soils occur mostly on the floodplain of the Washita River. These soils are typically dark-brown to reddish-brown. They are not suitable for cultivated crops and are best managed if planted in permanent grass cover.

AIR QUALITY

Roger Mills County is designated as a class II air quality area under the 1963 Clean Air Act, as amended (42 U.S.C. 7401 et seq.). Air quality monitoring for Oklahoma is conducted by the Oklahoma Department of Environmental Quality. Roger Mills County is currently in attainment with national ambient air quality standards for particulate matter, sulfur dioxide, nitrogen dioxide, ozone, carbon monoxide, and lead (NPS 1999).

Current local sources of air pollution include particulate matter from agricultural practices, prescribed burning, and emissions associated with vehicle and farm equipment usage.

WATER RESOURCES

The Washita River, a tributary to the Red River, originates in the high plains of the eastern panhandle of Texas. From its source, the river flows in generally an easterly direction through the Texas panhandle into west-central Oklahoma (Reber, et. al. 1999). The river crosses Washita Battlefield NHS just above the confluence of Sargent Major Creek near Cheyenne, Oklahoma. The Washita headwaters watershed above the national historic site encompasses about 50 square miles of rural, predominately agricultural land. Agricultural uses consist primarily of cattle ranching with a limited amount of irrigated crop production (e.g., wheat and sorghum). The Washita River is the primary water resource within the national historic site.

Water Quality

Minimal water quality data has been collected within the national historic site. Basic water quality parameters have been intermittently monitored by the USGS for the Washita River approximately 1.5 miles downstream from the parks boundary (Reber et al. 1999).

There are many potential sources of water contamination in the Washita River watershed upstream of the battlefield. Sources include wastes emitted from livestock, humans, and wildlife, leaching of fertilizers and pesticides from surrounding agricultural lands, leachate from unlined drilling-mud disposal pits near the river, oil drilling and production, and volatile organic compounds (VOCs) used or spilled at an airport and other commercial establishments upgradient from the national historic site (NPS/WRD Project Proposal 1999).

Of particular concern to the national historic site are potential impacts from a waste pit facility 2 miles west of the park. Until recently, this facility consisted of a commercial saltwater disposal well used primarily for the injection of saline waters produced in the oil and gas drilling process into a deep aquifer. The facility has received approval from the Oklahoma Corporation Commission to expand commercial operations by developing three 350' x 1150' earthen pits (evaporative ponds) for the disposal of oil field wastes, including water-based drilling fluids and/or cuttings and salt-contaminated soils (Reber et al. 1999). Currently one of the pits has been excavated. These new disposal pits will lie approximately ¼ mile up gradient from the Washita River.

More detailed water quality analyses was initiated in 2000 as the result of a joint project between the USGS and the National Park Service/Water Resources Division. These analyses will provide specific information on the presence and/or concentrations of major ions, trace metals, nutrients, pesticides, VOCs, and bacteria. Data collected by this study will provide the national historic site with the baseline information necessary to determine the current quality of water flowing in the Washita River through the national historic site (NPS 1999).

VEGETATION

Baseline vegetation data collection for Washita Battlefield was conducted in late June through mid-July 1998, and a vegetation analysis report was prepared by Stotts and DuBey (1998). This survey resulted in the identification of 10 distinct vegetation units as discussed in the table below.

WILDLIFE

Wildlife is relatively abundant in and around the national historic site although no formal inventories of vertebrate species have been performed. Mammal species known to inhabit or migrate through the park include the nine-banded armadillo

(*Dasypus novemcinctus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Eastern cottontail rabbit (*Sylvilagus floridanus*), beaver (*Castor canadensis*), plains pocket gopher (*Geomys bursarius*), white-tailed deer (*Odocoileus virginianus*), and bobcat (*Lynx rufus*). Numerous small mammals, including bat species, are also present, but remain undocumented.

A total of 59 bird species have been identified from the surrounding land areas belonging to the Black Kettle National Grassland and are also known or are likely to occur at Washita Battlefield. Common species include the northern bobwhite (*Colinus virginianus*), various hawk species (*Buteo spp*.), wild turkey (*Meleagris gallopavo*), killdeer (*Charadrius vociferus*), northern cardinal (*Cardinalis cardinalis*) scissor-tail flycatcher (*Muscivora forficata)*, and red-winged blackbird (*Agelaius phoeniceus*). Great blue herons and other migratory waterfowl are also likely to use the park.

Vegetation Type	Description
North Bench **37.8 acres**	This unit is to the north of the Washita River and represents an transition between the river floodplain and upland prairie habitat. Dominant vegetation includes American Elm (*Ulmus americana*), Hackberry (*Celtis spp*.), Soapberry (Spindus drummondii), Chickasaw Plum (Prunus angustifolia), little bluestem (Schizachirium scoparium), various gramma's (Bouteloua spp.), and switch grass (Panicum virgatum). This section of the park has not been plowed though it is somewhat degraded due to fire exclusion and the establishment of non-native plant species such as downy brome (*Bromus tectorum*).
North Floodplain **45.5 acres**	This unit is nearly flat, with evidence of old (natural) river channels. A narrow riparian-like belt (30 feet wide) follows the north/northwest edge of the floodplain and is dominated by black willow (Salix nigra), hackberry, and the non-native tamarisk (*Tamarix ramosissima*). A few eastern cottonwoods (*Populus deltoides*) may also be found in this area. This riparian-like belt may receive moisture during periods of a high water table or from surface water runoff from the North Bench. The herbaceous component dominates throughout the North Floodplain and is representative of a highly disturbed/degraded habitat. Dominant herbaceous species include yellow sweet clover (*Melilotus officinalis*), camphor weed (*Heterotheca subaxillaris*), downy brome, and bundle flower (*Desmantas illinoensis*).
Meadow - South Floodplain **61.7 acres**	This unit is within the southern floodplain of the Washita River and was dominated by old world bluestem (*Bothriochloa ischaemum*), a planted non-native grass species. The unit underwent a prescribed burn in the spring of 1999 and has also been tilled and re-seeded with a non-invasive cover crop as initial restoration actions. Walk-through vegetation surveys performed during late-July, 1999, revealed a dominance of early successional or weedy species including bermuda grass (*Cynodon dactylon*), annual sunflower (*Helianthus annuus*), ragweeds (*Ambrosia spp*.), horseweed (*Conyza canadensis*), and sow thistle (*Sonchus asper*).
Washita River Riparian Corridor **11.7 acres**	This unit averages 242 feet in width and includes the immediate land area associated with the north and south bank of the Washita River. The width of the riparian corridor has been significantly reduced from its 1868 appearance as a result of agricultural land uses. The corridor is dominated by woody species such as American elm, eastern cottonwood, hackberry, Chickasaw plum, and various willow species (*Salix spp*.). The corridor is further threatened by the presence of tamarisk which dominates both sides of the river banks. Removal of this aggressive exotic was initiated by park staff in 1999, but much additional work is still required before the species is considered under control.
South Riparian **23 acres**	This unit is a narrow band that lies between a bench/ railroad grade on the south and the meadow (south floodplain) unit to the north. This area is believed to have been the old river channel and currently receives moisture as a result of seasonally high water tables and from precipitation runoff from the adjacent upland bench. The soils are in the Springer series and are composed of loamy fine sand and are hummocky in places. Large, older trees of eastern cottonwood and black willow are distinct within this unit, with a total of 16 different shrub and tree species being documented.
Farmstead **6 acres**	The farmstead unit served as the former homesite (including outbuildings and a garden) for Betty and Dale Wesner. Soils in this unit are loamy to fine sandy loam within the Woodward and Yahola soil taxa. This unit is heavily infested with weedy species including Kochia (*Kochia scoparia*), bermuda grass, ragweeds, and downy brome. Hackberry and soapberry are dominant native tree species, with numerous ornamental/planted trees also present within this unit.
Upland Range **46.5 acres**	This unit contains the highest quality native upland prairie habitat found within the national historic site. Though showing signs of degradation (most likely due to

Vegetation Type	Description
	historic grazing and fire suppression), this unit is representative of a typical loamy prairie plant community. Three soil types are found in the upland range and are from the Woodward, Miles-Nobscot, and Springer series. Dominant herbaceous species include little bluestem, various grammas, downy brome, sand sage (*Artemisia filifolia*), and yucca. Forb species are abundant and vary in composition over the course of the growing season. Weed species are present, but in low abundance or in early stages of infestation.
Areas of Previous Wheat Fields **67.2 acres**	This unit is comprised of four areas within upland and floodplain habitats and were used for growing winter wheat up until 1997. In 1998, the National Park Service began a weed mowing and replanting effort within the former wheat fields to reduce soil erosion and to begin restoration efforts. The following seed mix was planted in 1998: Woodland Sand Bluestem (25%), Barton Western Wheat (14.4%), Cheyenne Indian Grass (14%), Blackwell Switch Grass (12.3%), Texoca Buffalo Grass (12.3%), Cimarron Little Bluestem (10.5%), El Reno Sideoats gramma (9.4%) and Bends Sand Love Grass (2%). Walk-through surveys performed in late-July, 1999 revealed a dominance of early successional and weedy species within the previous wheat field areas. Dominant species include horseweed, camphor weed, sow thistle, annual sunflower, curlycup gumweed (*Grindelia squarrosa*), and Johnson grass (*Sorghum halepense*).
Panhandle Short Line Railroad Grade **3.6 acres**	This abandoned railroad grade bisects the middle of the national historic site. Soil quality is poor and is comprised of excavated soil from local fields, cinders, and gravel. The abandoned bed is slowly undergoing secondary succession with a mixture of native and weedy species present. Trees present include American Elm (remains of a planted shelter belt), hackberry, and soapberry, with Chickasaw plum and smooth sumac (*Rhus glabra*) as the dominant shrub species. Herbaceous vegetation which accounts for the majority of plant cover, includes little bluestem, cheat grass, kochia, giant ragweed (*Ambrosia trifida*), sand sage, Canada wild rye (*Elymus canadensis*), Johnson grass, camphor weed, horseweed, wild morning glory (*Ipomoea sp*.), yellow sweet clover, and bundle flower. The railroad grade is currently the greatest impact to the cultural landscape. A more intensive restoration assessment is needed to determine to what extent the former railroad grade can be feasibly restored to reflect the historic conditions of 1868 battle.
Monument Overlook **3 acres**	This unit of the park serves as the primary location for parking and onsite access to the national historic site. The unit is vegetated with a mixture of native and non-native grasses (predominately non-native) that are mowed routinely to give a lawn appearance.
Forest Service Site **31.5 acres**	Most of the site is revegetated old field. This sitet was reseeded to little bluestem (Andropogon scoparius), indiangrass (Sorghastrom nutans), switchgrass (Panicum virgatum), sand bluestem (Andropogon hallii), sideoats grama (Bouteloua curtipendula), and sand lovegrass (Eragrostis trichlodes). Also found on this site are communities of blue grama (Bouteloua gracilis) and buffalo grass (Buchloe dactyloides), especially in unplowed areas, along with various species of the brome grases (Bromus spp.). Shrubs on this unit include shinnery oak (Quercus havrdii), sand sagebrush (Artemisia filiolia), and yucca (Yucca spp.). Tree species include osage orange (Maclura pomifera), shinnery oak motts, black locust (Robinia pseudoacacia), eastern redcedar (Juniperus virginiana), pondosa pine (Pinus ponderosa), and elm species (Ulmus spp.). Of the tree speces several are non-native and most are the result of shelterbelt or ornamental plantings.

Reptile and amphibian species are likely to include garter snakes (*Thamnophis* sp.), plains rattlesnakes (*Crotalus viridis viridis*), and various common turtle, frog, and toad species.

Common warm water fishes suitable to the Washita River include common carp (*Cyprinus carpio*), black and yellow bullheads (*Ictalurus melas* and *I. natalis*), channel catfish (*Ictalurus punctalis*), largemouth bass (*Micropterus salmoides*), and several shiner, minnow, and sunfish species.

THE NATURAL SOUNDSCAPE

Another resource at Washita is the natural soundscape. Sometimes referred to as "natural quiet" and "natural ambient sounds," the natural soundscape includes not only the quiet but the entire array of natural sounds found in the park, includeing: the sound of wind as it crosses the prairie, the call of a birds, and the gentle flow of the Washita River.

There has been no measure of the natural ambient sound environment at the park, but it is assumed that the decibel reading in the park would be in the 30-40 dBA range, an estimate for a rural setting such as Washita. As a point of reference, a conversation between two people would typically measure about 60 dBA, and typical suburban daytime readings would be in the 50-60 dBA range. Sound levels in the 20-30 dBA range would be found late at night inside a single family residence, with all windows closed, no internal noise sources operating (such as heating or ventilating systems) and no local traffic in the vicinity.

A factor to consider in determining the impacts on the soundscape resource of the park is the relative audibility of unwanted sounds, or noise. Annoyance from human sound sources, such as cars, buses, audio devices, generators, aircraft overflights, and peoples' voices, can adversely impact any natural soundscape. In very low-ambient-level natural soundscapes, like Washita, noise can be much more audible, thereby having greater impacts than would the same levels of noise in areas of higher-ambient-level soundscapes, such as urban environments.

VISITOR USE

CURRENT USE

Washita Battlefield National Historic Site received approximately 10,000 visits in 1999. Visitation has been increasing slightly since the park was established in 1996. Approximately two-thirds of the current visitors are from within Oklahoma. Park visitation is currently calculated as the number of visitors who enter the Black Kettle Museum, which is functioning as the park's information center. The number of visitors to the park is unknown. However, a traffic counter was installed in 2000.

There has been no formal study of visitation to Washita, so all information about park visitors is based on staff observation. Visitor use is mostly family groups, with a few organized groups and schools. Most visitors stay an hour or so at the park. Many of the visitors learn about the existence of the park by seeing the signs on the interstate, reading a newspaper article, or by word of mouth.

PROJECTIONS OF POTENTIAL VISITOR USE

Because the park does not have the facilities to accommodate large numbers of visitors, there has been minimal effort in disseminating information about the park and encouraging visitation. Therefore, current visitation is not indicative of what visitation may be in the future, both in terms of types of visitors and numbers of visitors.

The absence of hard data relating directly to park use makes forecasting future visitor use difficult. Future park use will be affected by a variety of factors, including the weather, the season, publicity, and the national and state economy.

Western Oklahoma is currently not a destination for out-of-state tourism. Visitors passing through on the interstate must make a time commitment (a 30-minute drive) to detour from the interstate to Washita Battlefield.

Based on surveys of comparable state and federal historical sites located in the Midwestern and Western United States, annual visitation to Washita Battlefield may range between 20,000 and 75,000 visitors per year. It may take several years of publicity for visitation to reach these levels. The average visitor length of stay will likely range from an hour to several hours.

INTERPRETATION AND VISITOR EXPERIENCE

The Black Kettle Museum, operated by the Oklahoma Historical Society, has been functioning as the park information / interpretation center. It is in the center of Cheyenne, 2 miles from the battlefield site. Many visitors stop at the Black Kettle Museum to get their information. Newly renovated exhibits provide information on the Cheyenne culture and the events at Washita. The museum is too small to handle large audiences. The museum has a small book sale area carrying a limited number of publications about Washita, including the trail guide. The museum is staffed by employees and volunteers of the Oklahoma Historical Society, and is open daily.

Information and a small cooperating association sales outlet are available at the park office in downtown Cheyenne, around the corner from the Black Kettle Museum. Many visitors bypass the Black Kettle Museum and the park office, and head

straight for the park. They do not receive adequate orientation to the park and its themes and significance. Some stop by the US Forest Service ranger station located at the corner of State Highways 47 and 47a, thinking that the station is the office for the National Park Service.

Once onsite, most visitor activities center around contemplating the scene, learning about the events that occurred at the site, and walking the short mowed trail. Visitor use is concentrated at the overlook where visitors park, climb onto the pavilion, view the encampment site and read the metal and granite markers. Some visitors walk the mowed trail that departs from the overlook and circles around the area of the village site. An interpretive trail guide is available in Cheyenne but not available onsite. A small number of picnic tables and a vault toilet are available at the overlook. The park is open to the public from daylight to dusk.

During the summer park staff and partners provide guided walks along the trail and other interpretive programs. Due to limited visitor use, most visitors have the opportunity to experience solitude and natural quiet onsite. Given that there is minimal onsite development and minimal surrounding development, night sky viewing opportunities are excellent.

The site is not staffed and there is no communication between the site and the park office or emergency services. Visitor safety could potentially be an issue in the future. To date there have been no major visitor safety incidents.

SOCIOECONOMIC ENVIRONMENT

POPULATION

Oklahoma had a population of 3,346,713 in 1998. Washita Battlefield is in Roger Mills County, one of the smallest counties in the state in terms of population. Roger Mills County had an estimated population of 3,580 in 1998. The population of the county has dropped 27% since 1980. In general, the county has been unable to recover from the massive out-migration of the Great Depression and the dust bowl era, a feature not uncommon in several rural Oklahoma counties. The county was 95% white in 1998, with 4% Native American. For comparison purposes the state averages are 83% white, 8% black, and 8% American Indian. Roger Mills County is predominantly rural, with almost 60% of all residents living outside city or town limits.

ECONOMY

The largest sources of employment in Roger Mills County are farm employment and government enterprises. The county's income is also highly dependent on the mining sector, especially natural gas. The county is the state's top producer of natural gas and brings in the state's highest oil and gas production. Agriculture and mining account for almost 60% of the jobs in the county. Government is a significantly larger employer in Roger Mills County than other counties in the state. The 1996 county unemployment rate of 2.8% is below the state average.

Roger Mills County trails the entire region in average per capita retail sales. The only boost to retail sales that the county receives is from 1) retailers supplying the oil and gas extraction industry and 2) tourists and hunters visiting the Black Kettle National Grasslands, Washita Battlefield, the Canadian River, and related natural areas. The per capita personal income for residents of Roger Mills County was $14,561, 78% of the 1995 state average of $18,601. Barely one-third of the county income comes from labor, while almost half comes from oil and gas royalties, agriculture and other rents, and other interest and dividends. The per capita personal income ranked 53rd out of Oklahoma's 77 counties. Oklahoma ranked 46th among all 50 states for median household income in 1996. The estimated poverty rate in Roger Mills County in 1995 was 19%.

The park is a part of the local socioeconomic environment, and the National Park Service's expenditures for goods, services, and staff provide a minor benefit to the area.

TRANSPORTATION / ACCESS

Cheyenne is 25 miles north of interstate 40, which runs east / west across the state of Oklahoma. Cheyenne is 138 miles west of Oklahoma City, 128 miles east of Amarillo, Texas, and 302 miles from Dallas, Texas. US highway 283 and State Highway 47 intersect in Cheyenne and are the primary access routes to Cheyenne. Washita Battlefield is located 2 miles west of Cheyenne on SH47 / 47a.

A small airstrip is in Roger Mills County just south of the Washita Battlefield site. The nearest commercial airport is in Oklahoma City.

VISITOR SERVICES

Cheyenne, Oklahoma, had a population of 898 in 1992. Cheyenne provides limited visitor services, including restaurants, motels, automotive gas and services, and medical assistance. Elk City, 37 miles to the southeast, is the largest community in Beckham County with a population (1995) of 11,275. It provides additional visitor services catering to the interstate trade.

REGIONAL LANDOWNERSHIP AND USE

Washita Battlefield National Historical Site is surrounded by privately owned lands. The lands bordering the park on three sides are privately owned and used for a variety of purposes including grazing, farming, and residential use. The park is bordered on the south side by a state right-of-way for route 47a with private land to the south side of the highway.

INTRODUCTION

The National Environmental Policy Act mandates that environmental impact statements disclose the environmental impacts of a proposed federal action. In this case, the proposed federal action is the implementation of the *General Management Plan for Washita Battlefield National Historic Site*.

This chapter of the document analyzes the potential effects of the four management alternatives on resources, the visitor use, and the socioeconomic environment of the park. These effects provide a basis for comparing the advantages and disadvantages of the alternatives.

The alternatives in this document provide broad management directions. Because of the general, conceptual nature of their potential consequences, the alternatives can only be analyzed in general terms. Prior to undertaking specific developments or other actions as a result of the *General Management Plan*, park managers would determine whether or not they would need to prepare more detailed environmental documents, consistent with the provisions of the National Environmental Policy Act.

The "Environmental Consequences" chapter first identifies the impact topics the planning team chose to analyze and discuss in this document, the topics considered but dismissed from detailed analysis, and the rationale for making these selections. The impact topics were divided into the following categories:

- cultural resources
- natural resources
- visitor uses and experiences
- socioeconomic environment

This section next discusses the methodology the planning team used to identify impacts and includes definitions of terms. The alternatives are then analyzed in the order they appear in the "Alternatives, Including the Preferred Alternative" part. Each impact topic includes a description of the positive and negative effects of the alternative, a discussion of the cumulative effects, if any, and a conclusion statement. For the analyses, the planning team assumed that the Park Service would take the mitigation measures described in the alternatives.

At the end of the discussion for each alternative, there is a brief discussion of unavoidable adverse effects, effects from short-term uses and long-term productivity, and irreversible and irretrievable commitments of resources.

METHODOLOGY

The planning team based this impact analysis and the conclusions in this part largely on the review of existing literature and park studies; information provided by experts within the National Park Service and other agencies, and park staff insights and professional judgments. The following describes the methodology used for each impact section.

Cultural Resources

Impacts to cultural resources were assessed by (1) identifying areas that could be impacted; (2) comparing the area of potential effect with that of resources listed, eligible, or potentially eligible for register listing; (3) identifying the extent and type of effect; (4) assessing these effects according to procedures established by the advisory council's regulations; and (5) considering ways to avoid, reduce, or mitigate adverse effects.

Impact Assessment. In this environmental statement, the cultural resource impact analysis is described in terminology consistent with the regulations of the Council on Environmental Quality (CEQ). The impact analysis is intended, however, to comply with the requirements of both the National Environmental Policy Act (NEPA), and Section 106 of the National Historic Preservation Act (NHPA). The Section 106 determination of effect for the undertaking (implementation of the alternative) is included in the "Section 106 Summary" section for each alternative.

Consistent with CEQ regulations, the analysis of individual actions includes identification and characterization of potential impacts, including an evaluation of impact intensity. This is a fundamental difference between NEPA and NHPA; wherein NHPA requires determinations of no effect or effect, and further requires where there is a determination of effect, a determination of whether that effect is adverse or not adverse.

Context. The context of the impact considered whether the impact would be local or regional. Local means the park, the national historic landmark district, and the Forest Service site. For the purposes of this analysis, local impacts would be those that occur at localized areas due to construction of facilities or park operations such as landscaping efforts.

Intensity. Intensity of impacts in the cultural resource analysis then, for purposes of NEPA, is defined as:

Negligible – Impact is barely perceptible and not measurable; confined to small areas or a single contributing element of a larger national register district or archeological site(s) with low data potential.

Minor — Impact is perceptible and measurable; remains localized and confined to a single contributing element of a larger national register district or archeological site(s) with low to moderate data potential.

Moderate — Impact is sufficient to cause a change in character-defining feature; generally involves a single or small group of contributing elements or archeological site(s) with moderate to high data potential.

Major — Impact results in substantial and highly noticeable change in character-defining features; involves a large group of contributing elements and/or individually

significant property or archeological site(s) with high to exceptional data potential.

Archeological resources are typically considered eligible for inclusion in the National Register of Historic Places because of the information they have or may be likely to yield. Intensity of impacts to archeological resources relates, additionally, to the importance of the information they contain and the extent of disturbance/degradation.

Ethnographic resources are considered eligible for inclusion in the national register when they are rooted in a community's history and are important in maintaining the continuing cultural identity of the community and meet criteria for evaluation and integrity. Intensity of impacts to ethnographic resources may relate to access and use of, as well as changes to, traditionally important places.

Duration. The duration of the impacts considered whether the impacts would occur in the short-term or the long-term. A short-term impact would be temporary in duration (or would refer to transitional types of activities). A long-term impact would have a permanent effect on cultural resources.

Types of Impact. Impacts were evaluated in terms of whether the impact would be beneficial or adverse to cultural resources. Beneficial impacts would help preserve and enhance those character-defining qualities that make a property significant under national register criteria. Adverse impacts would deplete or negatively alter these resources.

Mitigation would tend to reduce the negative impacts of a particular action.

CEQ regulations call for a discussion of the "appropriateness" of mitigation and NPS-12, the *National Environmental Policy Act Guideline* of the National Park Service, requires an analysis of the "effect" of mitigation. The "resultant" reduction in intensity from mitigation is an estimate of the effectiveness of mitigation under NEPA. It does not suggest that the level of effect as comprehended by section 106 be similarly reduced. Although adverse effects under section 106 may be mitigated, for example, the effect remains adverse.

Mitigation for NEPA purposes in this environmental impact statement is based on avoidance of adverse effects or application of one or more standard mitigation measures described at the end of the "Alternatives, Including the Preferred Alternative" part. Typically mitigation for archeological sites may include avoidance of sites through design. Continued consultation with culturally associated Indian tribes would aid in developing appropriate mitigating strategies for effects to ethnographic resources. Such strategies include continuing to provide access to spiritual areas such as the village area and the pony kill site.

It is important to remember that all alternatives assume that park managers would apply mitigation measures to minimize or avoid impacts. Increased visitor use would generate the need for additional monitoring and the mitigation of impacts. If mitigation measures cited were not applied, the potential for resource impacts would increase and the magnitude of those impacts would rise.

Natural Resources

Proposed actions and management zones were evaluated in terms of the context, intensity, and duration of the impacts, as defined below, and whether the impacts were considered beneficial or adverse to the natural environment. Generally, the methodology for natural resource impact assessments follows direction provided in the Council of Environmental Quality Regulations for Implementing the National Environmental Policy Act, section 1508.27.

Impact Assessment. The impact assessment for each impact topic is described below.

Soils. The impact assessment focused on what effect the Washita Battlefield National Historic Site *General Management Plan / Environmental Impact Statement* alternatives would have on the formation and conservation of geologic and soil resources. Development actions prescribed in the plan could affect the current soil resources through accelerated erosion or soil removal. Quantitative analysis of soil erosion, removal, and loss was not feasible for this impact assessment due to the prescriptive nature of the plan. Rather analysis was qualitative, and professional judgement has been applied to reach reasonable conclusions as to the context, intensity, and duration of potential impacts. When possible, mitigation measure(s) were incorporated into the Washita Battlefield National Historic Site *General Management Plan / Environmental Impact Statement* to reduce the intensity of adverse effects. Proposed actions and management prescriptions under the plan were evaluated in terms of the context, intensity, and duration of the impacts, and whether the impacts were considered to be beneficial or adverse to soil resources.

Air Quality. The air quality impact assessment involved the identification and qualitative description of the types of actions under the plan that could affect air quality, corresponding emissions sources and pollutants, and relative source strengths. Based on the relative source strengths, a qualitative assessment was performed to determine the potential for higher pollutant emissions or concentrations, taking into account the frequency, magnitude, duration, location, and reversibility of the potential impact.

Water Quality. The analysis identified potential effects on water quality associated with visitor use and the generation of nonpoint pollution, such as refuse and automobile-related pollutants. Additionally, the analysis examined potential impacts on water quality from construction.

Vegetation and Wildlife. Vegetation and wildlife are so intertwined that both topics have a similar analysis. NEPA calls for an examination of the impacts of all components of affected ecosystems. The National Park Service is to protect the natural abundance and diversity of all the park's naturally occurring communities. The ability to do a quantitative analysis is limited due to the prescriptive nature of the alternatives. Qualitative analysis relies substantially on professional judgement to reach reasonable conclusions as to context, intensity, duration, and type of potential effect. When possible, mitigation measure(s) were incorporated into the plan to reduce the adverse effect. The starting point for impact assessment is the natural process in the park unit, including size, physical foundation, and components of the natural communities and ecosystems.

Analysis was based on the assumptions listed below.

- The greater the size of a biotic community and the stronger its links to neighboring communities, the more valuable it is to the integrity and maintenance of biotic processes. Development limits the size of a community and fragments and disassociates communities from each other.

- The more developed areas become, the less valuable they are as wildlife habitat. New development would increase human presence and increase the potential for soil, vegetation, and wildlife disturbance. The potential for negative wildlife interactions (such as human injury from wildlife and the introduction of unnatural food sources) also would increase. The removal of development from an area would increase the value of the habitat.

- Development and activities near sensitive habitat may adversely affect adjacent natural communities.

- Disturbance in or near hydrological features may reduce the productive capability associated natural communities. Modifications that result in soil compactions, loss of riparian vegetation, and accelerated erosion and sediment transport influence important habitat characteristic such as substrate type, location, and cover. These physical aspects often determine the composition of vegetative and wildlife communities.

- Trails generally form barriers for wildlife and fragment habitat.

Context. The context of the impact considered whether the impact would be local or regional. Local means the park and the Forest Service site. For the purposes of this analysis, local impacts would be those that occur at localized areas due to the allowance of certain park operations such as construction of facilities.

Intensity. The intensity of the impact considers whether the impact would be negligible, minor, moderate, or major.

Negligible – impacts where effects considered not detectable and would have no discernible effect on the resources.

Minor -- impacts would be slightly detectable, but not expected to have an overall effect.

Moderate – would be clearly detectable and could have an appreciable effect on the resources.

Major – would be substantial, highly noticeable influence on the resources.

Duration. The duration of the impacts considered whether the impacts would occur in the short term or the long term. A short-term impact would be temporary in duration (or transition types of activities). A long-term impact would have a permanent effect on the resources.

Types of Impact. Impacts were evaluated in terms of whether the impact would be beneficial or adverse to resources. Beneficial impacts would improve soil resources by restoring areas and limiting development. Adverse impacts would deplete or negatively alter resources.

Visitor Use, Experience, and Interpretation

This section analyzes three different aspects of visitation and visitor enjoyment: visitor use, visitor experience, and interpretation.

The visitor experience component analyzes the expected level of visitation and length of projected stay at the park. Impact analysis was based on whether there would be a change in the availability of onsite activities and interpretive programs, media, and orientation/information sources and services throughout the park resulting from the actions and management prescriptions under the alternatives.

The visitor experience component also evaluates the quality characteristics and diversity of the visitor experience in terms of how they might be altered as a result of the actions and management zones in the alternatives. Every individual visitor to the park brings unique expectations and thus each have a unique experience. As a result, the environmental impact statement identifies, where possible, how the quality of the experience would change given application of actions and management zoning in each of the action alternatives.

The interpretation component evaluates opportunities for and quality of interpretive opportunities and experiences and orientation. Impact analysis was based on whether there would be a change in the access to, quality of, and diversity of interpretive media and programs throughout the park resulting from the actions and management prescriptions under the alternatives.

Impact Assessment. This assessment focused on the intensity and duration of impacts that would result from the proposed actions under the plan relative to the three different aspects of visitation and visitor enjoyment, and whether those impacts were considered to be beneficial or adverse. The assessment looked specifically at whether access to availability of some aspect of visitor use would be altered and whether there were changes in the characteristics or the quality of the experience. This discussion was provided for contextual purposes only, to facilitate the reader's understanding of the implications of an impact.

Intensity. The intensity of the impact considers whether the impact to visitor experience would be negligible, minor, moderate, or major. Negligible impacts were effects considered not detectable to the visitor and therefore expected to have no discernible effect. Minor impacts were effects that would be slightly detectable, though not expected to have an overall effect on the visitor experience. Moderate impacts would be clearly detectable to the visitor and could have an appreciable effect on the visitor experience. Major impacts would have a substantial, highly noticeable influence on the visitor experience and could permanently alter access to and availability of various aspects of the visitor experience.

Duration. The duration of the impacts considered whether the impacts would occur in the short term or the long term. A short-term impact would be temporary in duration (or transition types of activities). A long-term impact would have a permanent effect on the visitor use, experience, or interpretation.

Types of Impact. Impacts were evaluated in terms of whether they would be beneficial or adverse to visitation and visitor enjoyment. Beneficial impacts would allow greater access

to or availability for visitor contact with park resources and interpretative and orientation media and programs.

Socioeconomic Environment

The impact analysis evaluated the effect on the local economy. Quantitative analysis of potential effects on socioeconomic conditions was not feasible due to the prescriptive nature of the plan. Rather, analysis of effects was qualitative, and professional judgement was applied to reach reasonable conclusions as to the context, intensity, and duration of potential impacts.

Impact Assessment. Proposed actions and management zoning under this plan were evaluated in terms of the context, intensity, and duration of the socioeconomic impacts, and whether the impacts were considered to be beneficial or adverse.

Context. The context of the impact was local. Local means the area surrounding the park. It is not expected that socioeconomic impacts would extend beyond the counties and communities in the area.

Intensity. The intensity of the impact considers whether the impact would be negligible, minor, moderate, or major. Negligible impacts were effects considered not detectable and would have no discernible effect on the socioeconomic environment. Minor impacts were effects on the socioeconomic environment that would be slightly detectable, but not expected to have an overall effect. Moderate impacts would be clearly detectable to the visitor and could have an appreciable effect. Major impacts would have a substantial, highly noticeable influence on the socioeconomic environment and could permanently alter the socioeconomic environment.

Duration. The duration of the impacts considered whether the impacts would be short or long term. A short-term impact would be temporary (or transition types). A long-term impact would have a permanent effect.

Types of Impact. Impacts were evaluated in terms of whether the impact would be beneficial or adverse to the socioeconomic environment. Beneficial impacts would improve the social or economic conditions in the affected area. Adverse impacts would negatively alter social or economic conditions.

Cumulative Effects. A cumulative impact is described in regulations developed by the Council on Environmental Quality (CEQ), regulations 1508.7, as follows:

> A “cumulative impact” is the impact on the environment which results from the incremental impact on the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

To determine potential cumulative impacts, actions with the region surrounding Washita Battlefield National Historic Site were identified. The region, or assessment area, included Roger Mills county. Potential projects, identified as “cumulative actions,” included any planning or development activity that was currently being implemented or would be implemented in the reasonably foreseeable future.

IMPACTS OF THE NO-ACTION ALTERNATIVE

IMPACTS ON CULTURAL RESOURCES

Archeological Resources

Analysis. Under the no-action alternative, there would be no change in management or treatment of archeological sites. Due to staffing and budget limitations, there is no full-time law enforcement presence at the site. Some visitors would continue to go directly to the park, bypassing the Black Kettle Museum and/or the NPS office in Cheyenne. Visitors would have few opportunities to learn about stewardship of the park's archeological resources. Thus there is potential for unauthorized collecting and vandalism. Fortunately due to the heavy vegetation cover across most of the site, such collection is likely to be sporadic and localized in nature. Under the no-action alternative, long-term, minor adverse impacts on archeological resources may occur due to a lack of NPS onsite presence.

Ongoing landscape restoration would continue, but this work is being done in previously disturbed areas so no impacts to archeological resources would be expected. Mitigation measures described at the end of the "Alternatives, Including the Preferred Alternative" part would reduce effects of unauthorized collecting and damage to sites from restoration activities.

Cumulative Effects. Before Washita's establishment as a national historic site, artifacts and sites were damaged or lost through a variety of agricultural uses, souvenir hunting, terrace construction, flooding, erosion, changes in river course, and rodent activities. These actions and processes destroyed scientific evidence through the undocumented removal or disturbance of artifacts from their original locations. Once artifacts are removed, it is generally impossible to use them to document site time period, activities, or users.

Hobby collecting on private and public lands is ongoing and is expected to continue in the future, as is the loss of sites and artifacts to natural processes. Highway construction (U.S. Highway 283) and other development projects continue to "nibble" away at these nonrenewable resources. For example, recent surveys within the park failed to locate features of a prehistoric/protohistoric site that were originally documented only a few years ago.

The park is part of a 12-square-mile national historic landmark district that bounds the park on the west, north, and east. The NHL district includes areas associated with the battle—military and Indian alike. These privately owned lands are used for agricultural purposes. Plowing and other agricultural activities such as cattle grazing have reduced the quantity and quality of archeological materials.

Over time these losses of sites and artifacts diminish the scientific database related to the prehistory and history of the Great Plains. A diminished database causes research into the past to be more difficult and less statistically viable. The region's archeological resources have suffered long-term, moderate adverse impacts from these human activities and natural processes. When the minor adverse impacts of the no-action alternative are combined with these other past, present, and foreseeable future activities and

processes affecting prehistoric archeological resources, moderate, long-term, adverse cumulative impacts would occur. (Since the park is relatively small, and because its archeological resources do not reflect the full spectrum of sites across the region, continuation of existing conditions would have only a very modest effect on the cumulative impacts from regional loss of sites). Any loss of archeological integrity within the park also contributes to a cumulative effect on the NHL district surrounding it.

Conclusion. The no-action alternative could result in minor, long-term, adverse impacts on archeological resources due to lack of NPS onsite presence and fewer opportunities for visitor stewardship education.

Moderate, long-term, adverse cumulative impacts on archeological resources would result from continued hobby collecting, development, and agriculture practices.

Cultural Landscape

Analysis: The overlook, adjacent roadway, fencelines, railroad grade, agricultural fields, and homestead clearings would continue to visually intrude on the cultural landscape. However, for several reasons, this long-term adverse impact would be minor. When visitors view the area from the overlook, the railroad grade, homestead clearings, and the agricultural fields are some distance away, and vegetation tends to soften the intrusions. The roadway lies behind the viewing area and is usually not directly within the primary viewshed seen from the overlook. The overlook itself is most intrusive when viewed from the path below, near the river, but not all visitors go into this area. As the park continues to revegetate disturbed areas such as the former farm fields, adverse impacts would be gradually reduced. Mitigating measures (described in the "Alternatives, Including the Preferred Alternative" part) and working with park neighbors also would help maintain the cultural landscape within the broader NHL district.

Cumulative Effects. Past activities such as homesteading and railroad building have made changes to the historic landscape, and roads, the railroad, and the overlook would continue to have minor adverse impacts on the landscape. However, no other future development of areas around the park with potential to affect the cultural landscape or the historic landmark has been identified. The Park Service would continue to work with landowners to preserve the historic scene around the park. Thus there would be no cumulative impacts of the no-action alternative.

Conclusion: The overlook, roadway, fencelines, and railroad grade would continue to have a minor, long-term, adverse effect on the historic cultural landscape. These impacts would be minor due to the softening effects of vegetation cover, and to the direction from which the landscape is generally viewed. No cumulative impacts would occur.

Ethnographic Resources

Analysis. Prior to acquisition by the National Park Service, this area was privately owned, making it difficult for American Indians to come here to conduct religious ceremonies or leave offerings. Access to park lands is now easier for tribes, but many traditional places outside the park are still privately owned, and are

inaccessible to tribes. Under this alternative, staffing limitations prevent a full-time onsite NPS law enforcement presence at Washita. Some visitors would continue to go directly to the park, bypassing the Black Kettle Museum and/or the NPS office in Cheyenne. Lacking an onsite NPS presence and with few opportunities for visitors to learn about sensitive ethnographic values, there would be potential for visitors to interrupt American Indians' religious activities, or to collect or otherwise disturb offerings left at the site. Losses of offerings and disruption of religious activities would diminish the quality of Indians' religious experience and could cause tribes to modify the locales, type, and level of their spiritual activities, a minor to moderate, long-term, adverse effect on their cultural values.

Cumulative Effects. Over time, American Indians have suffered losses of their cultural traditions due to a variety of reasons, including governmental policies, Euroamerican educational programs, and television. Each succeeding Indian generation finds fewer native speakers, and there may be fewer religious practitioners to conduct religious ceremonies. Access to areas traditionally used historically is often restricted. These trends are expected to continue in the foreseeable future.

When the impacts of the no-action alternative (e.g., disruption of onsite religious activities by visitors) are combined with the cultural changes mentioned above, there could be a minor to moderate, long-term, adverse cumulative effect on the traditional culture/ethnographic values of several American Indian tribes. The intensity of effect could vary, depending on the degree and type of cultural change among tribes. These changes in cultural values could include modifications in the quantity, quality, or type of religious activities related to Washita and could reduce American Indian interest in the site and its meaning to tribes.

Conclusion. Lack of onsite NPS law enforcement presence could result in minor to moderate long-term adverse impacts on ethnographic resources and values due to the potential for disruptions of religious activities by visitors.

Minor to moderate, long-term adverse cumulative impacts on ethnographic values and resources would also result from diminished quality of religious experiences and subsequent changes in tribal cultural practices. The intensity of effect could vary, depending on the degree and type of cultural change among tribes.

Collections

Analysis. Under this alternative lack of appropriate storage and exhibit facilities would continue. Existing collections would not receive optimal curation due to lack of space and controlled climatic conditions. Archival materials important for research and interpretive programs might not be available for use by researchers or park staff. The future potential for the park to acquire or study items needed for research and interpretation would be reduced. Lacking appropriate facilities, the collection's research, interpretive, and scientific value would be diminished.

The result would be long-term, moderate adverse impacts on Washita's collections due to lack of appropriate curational and research facilities, and the inability to acquire or curate relevant archival materials. The impacts would be readily appar-

ent to curators, researchers and to park staff.

Cumulative Effects. Washita was one of the three pivotal military-Indian encounters that illustrate major changes in governmental policy towards American Indians during the late 19th century. The park's collections form only a small, nonrepresentative sampling of the many artifacts and research materials related to this history and to the park's purpose and significance. Private collectors and institutions scattered around the country hold the majority of the artifacts and archival materials relating to the 1868 events at Washita and to prehistoric sites in the area. Over time, as collections are sold, inherited, divided, or transferred, the integrity of and the accountability for these artifact and archival materials has been, and is likely to continue to be, diminished. Future acquisition of copies of archival materials or artifacts related to the park would become more costly and perhaps more difficult.

Loss of integrity of Washita's collections or research potential also has an impact on the integrity and research potential of a much broader realm of American history and archeology. Moderate, cumulative, long term, adverse impacts could occur under this alternative due to loss of research potential, diminished integrity of collections, and inability for the park to acquire or use needed research materials.

Conclusion. Moderate, long-term, adverse impacts would occur due to inadequate curatorial and research facilities, and due to reduction of the park's ability to acquire research materials. These moderate, long-term, adverse impacts would also be cumulative due to continuing losses of artifacts and research materials related to Washita, the military-Indian conflict in the West, and U.S. government policy towards Indians.

SECTION 106 SUMMARY

Under the Advisory Council on Historic Preservation regulations (36 CFR 800.9) addressing the criteria of effect and adverse effect, the Park Service finds that the continuation of park management policies under this alternative would result in adverse impacts to collections and archeological, cultural landscape, ethnographic resources.

Lack of an onsite law enforcement presence could contribute to unauthorized collection of artifacts and loss of important archeological information. Mitigating measures (as described at the end of the "Alternatives, Including the Preferred Alternative" part) would be employed to help educate visitors and protect resources, but some adverse impacts of unauthorized collecting could still occur.

Existing intrusions (the overlook, county road, fencelines, and railroad grade) would continue to adversely affect the cultural landscape. Revegetation and other mitigation measures would be implemented as funding allowed.

Whenever possible, the park would continue to educate visitors regarding Indian concerns about displacement of offerings or disturbance of religious activities. Lacking an onsite NPS law enforcement presence, the adverse impacts of these visitor activities would probably continue.

Collections and history research would continue to be adversely affected by lack of appropriate facilities.

As part of a larger NHL district, impacts on the park's resources also impact the district. The park would continue to work with adjacent landowners to help ensure no adverse impacts occurred to cultural resources within the district.

In accordance with NPS policies and procedures, the park would continue to protect cultural resources to the greatest extent allowable under present funding and staffing levels. Disturbance of significant resources would be avoided wherever possible. Where avoidance or preservation could not be achieved, appropriate mitigation would be carried out under guidance of the Advisory Council on Historic Preservation procedures (36 CFR 800).

IMPACTS ON NATURAL RESOURCES

Soils

Analysis. No additional land disturbances would occur from park development under the no-action alternative. Minor to moderate adverse impacts to soils would occur as a result of continued soil compaction (and reduced soil permeability) and erosion in association with trail and visitor use areas. Long-term, human-induced erosion issues would be localized and primarily restricted to the sloped areas along the trail. Soil erosion issues would be mitigated by monitoring the trail and restoration areas susceptible to erosion through revegetation and use of appropriate erosion control measures (e.g., silt fencing, slope stabilization). Visitor education on the impacts of off-trail use would also assist in minimizing adverse impacts to soil resources.

Minor, temporary increases in soil erosion would occur as a result of restoration activities that require ground disturbance (e.g., restoration of railroad grade and former agricultural fields) but would result in overall long-term benefits to soil resources in the park through stabilization of soils with native vegetation.

Long-term natural erosion processes would continue under the no-action alternative.

Cumulative Effects. Minor to moderate adverse impacts to soil resources through accelerated erosion would continue on lands surrounding the national historic site as a result of historic and ongoing agricultural practices.

Conclusion. Predominately minor, long-term impacts on soil resources directly associated with the trail and visitor use developments would continue as a result of compaction and localized erosion. Restoration of natural topography and the stabilization of previously disturbed lands with native vegetation would result in overall positive, long-term benefits to park soil resources.

Air Quality

Analysis. Predicted increases in park visitation, coupled with existing traffic patterns and vehicle use, likely would result in negligible to moderate increases in localized air emissions with temporary minor impacts to near-range visibility. Impacts would be greatest during seasons of peak visitation (summer months) while negligible to minor during the off season (winter months). Impacts to local air quality would be minimized by requesting vehicles to turn off engines when parked.

Temporary minor to moderate, adverse impacts to air quality and visibility would also occur during restoration activities such as prescribed burning and plowing. These activities would be mitigated by burning only under conditions that allow for maximum smoke dispersal and by minimizing ground-disturbance activities (e.g., plowing) under exceptionally windy, dry conditions.

Cumulative Effects. Roger Mills County remains predominately rural with agriculture serving as the dominant land use. Additional external factors associated with seasonal agricultural practices might contribute to temporary impairments to localized air quality and visibility. Use of agricultural equipment would result in increases in vehicle emissions and in air particulates (e.g., fugitive dust). Vehicle emissions and residential and commercial developments in the nearby town of Cheyenne serve as added minor, long-term sources of localized air pollution. Air quality issues outside the park would be addressed through cooperative efforts between the National Park Service, associated landowners, and the Oklahoma Department of Environmental Quality.

Conclusion. The no-action alternative would result in overall minor, long-term, adverse impacts to localized air quality and visibility as a result of increased visitation and vehicle emissions. Minor to moderate, short-term impacts to air quality would occur as a result of prescribed burning and other restoration activities that require ground disturbance (e.g., creation of fugitive dust).

Water Quality

Analysis. Predicted increases in visitation and associated use of the existing parking facility would increase the potential for runoff of petroleum-based products (e.g., oil, gasoline, coolants) leading to localized negligible to minor, adverse impacts as a result of surface water contamination and runoff. Increased soil erosion associated with sections of the trail and ground-disturbing restoration activities would result in a negligible to minor increase of sediment runoff into surface waters. These impacts would be mitigated through use of appropriate erosion control measures and the monitoring of surface water quality within the park.

Restoration activities under the no-action alternative would result in long-term benefits to water resources within the park by establishing healthy stands of native vegetation, reducing the land area susceptible to erosion, and by reducing rates of sediment and surface water runoff (e.g., increased water retention and filtration).

Cumulative Effects. There are numerous potential sources of water contamination in the Washita River watershed upstream of the battlefield. Potential sources include wastes emitted from livestock, humans, and wildlife; leaching of fertilizers and pesticides from surrounding agricultural lands; leachate from unlined drilling-mud disposal pits near the river; oil drilling and production; and volatile organic compounds (VOC's) used or spilled at an airport and other commercial establishments upgradient from the national historic site (NPS/WRD Project Proposal 1999).

Preliminary water quality testing of the Washita River (within the park) has identified acceptable levels of four pesticides (Atrazine, Deethylatrazine, Prometon, and Tebuthiuron) and seasonally high counts of fecal coliform and fecal streptococcal bacteria that substantially exceeded the states primary contact standards for swimming. Sources for the pesticide and fecal bacteria have been detected outside the park and are most likely associated with upstream agricultural land uses.

Potential impacts to water quality within the Washita River might also occur as a result of the proposed expansion of a waste pit facility 2 miles to the west (upstream) of the park. Until recently, this facility consisted of a commercial salt-water disposal well used primarily for the injection of saline waters produced in the oil and gas drilling process into a deep aquifer. The facility has received approval from the Oklahoma Corporation Commission to expand commercial operations by developing three 350' x 1,150' earthen pits (evaporative ponds) for the disposal of oil field wastes, including water-based drilling fluids and/or cuttings and salt-contaminated soils (Reber, et. al. 1999). These new disposal pits would lie approximately ¼ mile up gradient from the Washita River.

Water pollution issues occurring outside the park would be addressed through cooperative efforts between the National Park Service, associated landowners, and the Oklahoma, Department of Environmental Quality.

Cumulative impacts are moderate, long term, and adverse. The contribution of Washita to these impacts would be small in comparison to the total cumulative impact.

Conclusion. Localized, negligible to minor, adverse impacts to surface waters would occur near the overlook parking facility as a result of increases in runoff of petroleum-based materials associated with increased visitor/vehicle use. Overall, long-term beneficial impacts to water quality would occur as restoration activities progress, reducing rates of sediment and surface water runoff.

Vegetation

Analysis. Increased visitor use of the trail system would result in continued long-term, minor losses of native vegetation. Most of this loss would be associated with disturbances to trail edges but might also be the result of unsolicited creation of social trails. These impacts could be minimized by monitoring trail edges, re-vegetating disturbed areas with native vegetation, and educating visitors. Currently, no trail is within the riparian corridor, limiting impacts to only minor incidences created by unsolicited, off-trail use and by non-native plant species.

The numerous exotic (non-native) plant species within and outside the park represents a substantial threat to park vegetation resources. Exotic species' impacts within the park would be mitigated by restoration activities and through implementation of an integrated weed management program. The park would work cooperatively with local landowners to resolve external invasive plant issues.

Short-term adverse impacts to native vegetation as a result of earth moving and reshaping of natural contours associated

with restoration of the abandoned railroad grade and previous agriculture field areas would occur under the no-action alternative. These impacts would be mitigated by salvage of native plant materials for replanting whenever possible and by limiting the work zone to the minimum area necessary. Prescribed burning would be used to assist in the restoration and maintenance of native plant habitats. Restoration activities would provide overall, major, long-term benefits to park vegetation resources.

Cumulative Effects. Historic alterations through agriculture land uses, fire suppression, establishment of non-native species, and alterations to natural hydrologic processes have resulted in substantial degradation to the regional vegetative resources. Historic and current unmitigated overgrazing and agricultural cropping activities have resulted in regionwide losses of native plant diversity and reductions in overall plant community health. These impacts would have moderate, long-term adverse impacts to the park's vegetative resources through substantial reductions in natural plant recruitment/migrations and through the loss of potential for genetic exchange.

The presence of numerous unmitigated populations of non-native plant species external to the park represents a long-term, moderate threat (through potential reinvasion) to park vegetation.

The cumulative impacts to the vegetation resources are moderate to major, long term, and adverse. The national historic site impacts would be beneficial and are small in comparison with other impacts in the area.

Conclusion. Localized, minor to moderate, long-term beneficial impacts to native vegetation would occur adjacent to visitor use areas and/or as a result of unsolicited off-trail uses. Restoration activities and active weed management throughout the park would result in major, long-term, benefits to park vegetation resources.

Wildlife

Analysis. Temporary displacement of wildlife in association with existing visitor use and maintenance of the trail system would continue. Habitat fragmentation created by the existing trail within upland and floodplain communities would have minor, longer-term adverse impacts to less mobile wildlife species (e.g., amphibians and reptiles) or to species with smaller home ranges. Existing human, ambient noise levels would have temporary adverse impacts to wildlife species, especially on species that are noise-sensitive or that rely on sound as a means of communication (especially during reproductive cycles).

Habitat loss as a result of human disturbances before designation of the national historic site and the presence of numerous non-native plant species substantially threaten the wildlife diversity at the park. These historic impacts would be partially mitigated through restoration activities that would re-establish native plant communities. Although restoration activities would have short-term, adverse impacts to some wildlife species as a result of temporary losses in vegetative cover and increases in ambient noise levels, the end result would be substantial enhancement of habitats for wildlife use.

Use of prescribed fire would be timed to avoid major breeding seasons for sensitive wildlife species (e.g., amphibians, reptiles, ground nesting birds). "Walk-throughs" of areas to be included in a prescribed burn would be performed immediately before any ignition to chase or alert wildlife species. Ground-burrowing animals would be insulated from fire effects by soil depths of 1 inch or more.

Cumulative Effects. Regional wildlife has been historically affected by agricultural land uses (grazing and cropping), fire suppression, hydrologic alterations, and the introduction of non-native species. There has been subsequent habitat loss and/or degradation associated with historic and current human-related disturbances. Cumulative impacts would be moderate to major, long term, adverse to regional wildlife species diversity. The contribution of Washita is very small in comparison to the total cumulative impacts.

Conclusion. Activities identified under the no-action alternative would result in minor to moderate, predominately temporary, negative impacts to wildlife resources. Impacts would include habitat fragmentation and increases in ambient noise levels during periods of peak visitation. Restoration of the natural landscape at Washita would result in long-term benefits to wildlife species by improving habitat for wildlife use.

Natural Soundscapes

Analysis. Temporary impacts to natural sounds are currently experienced as a result of noise originating predominately from offsite areas (passing cars, farm machinery). Minor increases in ambient noise levels would be expected with increases in park visitation. Disturbances to natural soundscapes would be more prevalent during periods of peak visitation (summer months).

Cumulative Effects. Surrounding land uses are minimally disruptive to natural soundscapes. Cumulative impacts would be negligible to minor, long term, and adverse.

Conclusion. Implementation of the no-action alternative would result in minor, predominately short-term, adverse impacts to natural soundscapes as a result of offsite noises and increased visitation.

IMPACTS ON VISITOR USE, INTERPRETATION, AND EXPERIENCE

Visitor use would likely grow over time as more and more people learned about the park. However, due to limited facilities and staff, visitation would likely grow slowly under this alternative. Because the access to the park would continue to be minimal, the average length of stay for visitors would remain short.

Due to limited opportunities for interpretation and education, most visitors would not fully understand the significance and themes of the park or the causes, consequences, or context of the events that occurred there. Visitors would continue to be confused about where to go to get information about the park – the Black Kettle Museum, the National Park Service office in Cheyenne, or the Forest Service ranger station. Many visitors would arrive at the park without adequate orientation or introduction, minimizing their under-

standing of the park's significance and overall enjoyment of the park. Because visitors would not be able to understand, appreciate, and enjoy the park and its resources, this would have a minor to moderate, long-term negative impact on the visitor experience.

Onsite facilities would remain minimal and visitors would continue to have access to only a limited portion of the park. Visitors would have minimal opportunity for contact with park resources, and those visitors wanting to access the entire park might be disappointed by a lack of trails or other onsite facilities. Visitors with mobility impairments would not have access to any of the onsite facilities. This would have a moderate, long-term negative impact on those visitors wishing to experience the site first-hand. Those visitors who consider the site sacred and prefer to not have visitors on the site would experience a moderate long-term positive impact under continuation of existing conditions.

Visitors would continue to experience a landscape considerably altered from its 1868 appearance. While current management practices of returning cropland to native grasses would continue, restoration would not be complete. This would limit visitors' ability to understand and imagine the events of 1868. The current overlook structure would continue to impact visitors' views from the village site, compromising their experience. These actions would combine to have a minor to moderate negative impact on visitors' enjoyment and experience of the resource. Because there would be no communication between the park staff and emergency services, the response time for visitor emergencies could be long. This could have a minor, negative long-term impact on visitor safety.

Cumulative Effects. The National Park Service would not have a visitor center telling the Washita story and themes under this alternative. However, these stories and themes would continue to be partially told through the existing exhibits at the Oklahoma Historical Society's Black Kettle Museum, as the Black Kettle Museum would likely remain open under this alternative. The impacts of this action in combination with the NPS no-action alternative would have a minimal minor to moderate, positive cumulative impact on the visitor's ability to understand Washita's stories and themes.

Conclusion. Visitors would continue to have minimal opportunities to experience or learn about Washita Battlefield. Therefore, continuing existing conditions would result in moderate, long-term, negative impacts on the visitor experience.

IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT

Implementation of this alternative would have minimal impacts on the socioeconomic environment of the local community. Visitation to the park would gradually increase over time, which could create minor additional economic benefits and opportunities in the regional economy. It would also cause a minor increase in the amount of traffic in the local community and on access roads.

Cumulative Effects. No known cumulative impacts on tourism, recreational opportunities, or the local and regional economy would be expected.

Conclusion. Under this alternative, there would be minimal positive long-term impacts on the socioeconomic environment and a minimal negative long-term impact on road traffic in and around Cheyenne.

UNAVOIDABLE ADVERSE EFFECTS

There would be no major adverse effects as a result of the no-action alternative.

RELATIONSHIP OF SHORT-TERM USES OF THE ENVIORNMENT AND MAINTENANCE AND EHANCE-MENT OF LONG-TERM PRODUCTIVITY

Restoring the prairie vegetation within the park would enhance long-term productivity of the biological resources associated within the boundary.

IRREVERSIBLE AND IRRETIREVABLE COMMITMENTS OF RESOURCES

The planning team is not aware of any irreversible or Irretrievable commitments resources that would occur under the no-action alternative.

IMPACTS ON CULTURAL RESOURCES

Archeological Resources

Analysis. Before going to the park, most visitors would stop at the visitor center. Here they would have an opportunity to learn about the important role that archeological resources have in telling the story of the 1868 encounter. Additional information would be provided at the park, and visitor use would be directed to non-sensitive areas. Visitors would gain a better understanding of the need to protect and preserve archeological resources and would be less likely to remove artifacts from the park. The presence of law enforcement rangers also would encourage resource stewardship. Due to reduced opportunities for unauthorized collecting and improved stewardship of resources, long-term adverse impacts on archeological resources from unauthorized collecting would be negligible.

Archeological surveys and testing within the park and on Forest Service land have identified the locations of archeological resources as well as previously disturbed areas. Known resources have been evaluated for potential listing on the National Register of Historic Places. During the planning process, management zones were carefully delineated to avoid potential impacts on these resources. Thus construction of most new facilities (the visitor center/ administrative facility, maintenance, the overlook, and the trailhead) would occur in previously disturbed areas and/or areas lacking known archeological resources.

The following measures would help mitigate adverse impacts of construction (Other mitigation measures are found at the end of the "Alternatives, Including the Preferred Alternative" part). Stop-work provisions would be included in construction documents in case unknown resources were discovered, and an archeologist would monitor ground-disturbing activities in sensitive areas, including trail construction. Future testing and evaluation would be conducted in areas where there is potential for development or restoration activities to encounter archeological resources. Should resources be found, designs would be adjusted accordingly, and appropriate Section 106 compliance would be completed prior to any ground disturbing activities.

An appropriate level of survey, testing, and archeological monitoring would accompany prairie restoration so no adverse impacts on important cultural resources would be expected.

These mitigating measures would help reduce potential loss of resources from development and restoration actions. Only occasional (but long-term), negligible to minor adverse impacts on archeological resources would be expected from development.

Damage to archeological resources from natural forces such as erosion and rodent activities would continue. However, the increased presence of park personnel would allow closer monitoring and maintenance of archeological resources, and would aid in recovery of important information where sites are threatened. This would result in negligible, long-term adverse impacts on these resources.

Cumulative Effects. Natural processes and hobby collecting on private and public lands

are ongoing and are expected to continue in the future. These activities plus farming, cattle grazing, and development (including US highway 283), continue to reduce the number and quality of archeological sites regionally and on privately-owned lands within the NHL district.

Over time these losses of sites and artifacts diminish the scientific database related to the prehistory and history of the Great Plains and cause research into the past to be more difficult and less statistically viable. The region's archeological resources have suffered long-term, moderate adverse impacts from these human activities and natural processes.

When the impacts of the preferred alternative are combined with these other past, present, and foreseeable future activities and processes affecting prehistoric archeological resources, long-term, moderate adverse cumulative impacts would occur. However, because of proposed park programs that would increase public understanding and stewardship, adverse cumulative impacts on archeological resources could be slowed marginally. Stewardship could have a ripple effect outside the park if only a few visitors choose to apply the preservation ideas learned at the park to their home communities as well.

The park would continue to work with adjacent landowners to help avoid any potential adverse impacts on cultural resources within the national historic landmark. Park programs also would increase stewardship and help reduce any potential impacts to the NHL district surrounding the park.

Conclusion. Negligible to minor, long-term, adverse impacts on archeological resources would result from natural processes, unauthorized collecting, visitor use, prairie restoration, and construction. Cumulative adverse impacts from development, agricultural uses, and hobby collecting would be moderate and long term, however, increased stewardship would reduce these cumulative impacts marginally.

Cultural Landscape

Analysis. During development associated with this alternative, short-term moderate adverse impacts on the cultural landscape would occur from construction (e.g., the presence of heavy equipment, denuded ground surfaces, dust, and noise would be distracting to both visitors and staff.)

Long-term impacts on the cultural landscape would be both beneficial and adverse. The landscape would benefit from eventual removal of all or parts of the railroad grade, restoration of the grasslands, and rehabilitation of the overlook area. Rehabilitation of the proposed staging area would remove intrusive and exotic plantings and debris. These changes would result in long-term, moderate beneficial impacts on the cultural landscape.

Adverse impacts from replacement of facilities at the overlook, definition of trails, and development of the west end contemplative area and trailhead would have a minor, long-term, adverse impact on the cultural landscape. Impacts would be minor because these facilities would utilize previously disturbed areas, and all possible mitigating measures would be implemented to reduce impacts on the landscape. Throughout the site, revegetation with native materials and use of topography and natural vegetation screening to hide trails, parking, and buildings would help to blend newly constructed facilities unobtrusively into the

surrounding landscape. Reduction of visual impacts of facilities and automobiles at the trailhead staging area and at the west side of the park would have high priority. Wherever possible, unrestored sections of the railroad grade would be used to camouflage trail corridors.

Careful building design at the overlook would consider mass, scale, location, and use of natural appearing materials. All NPS facilities would share a unified design character. These measures would help mitigate the adverse impacts of site development. In addition, the park would work cooperatively with adjacent landowners to maintain the historic ambiance of the area surrounding the park.

All of these efforts would result in an overall minor, long-term beneficial impact on the overall cultural landscape, both inside and around the park, including the national historic landmark.

At the Forest Service site, new, carefully designed structures and landscaping with natural materials would replace existing older structures and exotic landscaping materials. Structures would be sited so as to provide the best opportunities for visitors to gain a broad vista including the Washita River and Sargent Major Creek drainages. Sustainability would also be considered. There would be a negligible, long-term, beneficial impact on the historic scene at the Forest Service site from these new facilities and plantings.

Cumulative Effects. For well over a century a variety of intrusive changes such as farming, ranching, towns, railroads, and highways have had a moderate long-term adverse impact on the prairie landscape of the 1860s. (The impact is moderate because the area surrounding the park remains pastoral in nature and developments are relatively modest in size and visibility). Most of these activities are expected to continue into the future, although little new development or change in the immediate vicinity of the park is expected.

The preferred alternative proposes restoration of the cultural landscape within the park. This proposal, coupled with cooperative efforts with local landowners, would help reduce visual intrusions not only within the park, but also in the broader viewshed and national historic landmark surrounding the park. Long-term moderate adverse cumulative impacts from past and modern developments would continue outside the park. However, these impacts would be reduced incrementally through beneficial park restoration efforts.

Conclusion. Construction would cause short-term moderate adverse impacts on the cultural landscape. Long-term impacts on the landscape would be both adverse and beneficial. Restoration activities would have long-term, moderate beneficial impacts by removing intrusions and restoring the prairie. New or replacement facilities would intrude on the cultural landscape, resulting in a minor, long-term adverse impact, but mitigation would help reduce these impacts. In sum, these long-term impacts would be minor and beneficial.

New facilities at the Forest Service site would have a long-term, negligible beneficial effect on the historic scene. Adverse cumulative impacts on the landscape from such activities as farming and construction would be long term and moderate. Restoration of the park landscape would help reduce these cumulative impacts.

Ethnographic Properties

Analysis. Representatives of American Indian tribes participated in development of this and the other alternatives to help ensure their concerns were incorporated into the planning process. Management zones were carefully delineated to reflect tribal concerns about visitor use of sensitive areas such as the village site. Short-term, adverse impacts of construction on tribal activities would be avoided or reduced by notifying tribes of potential construction dates and locales. All efforts would be made to accommodate tribal needs during construction.

Visitors would be directed to non-sensitive areas within the park. Interpretive messages would help visitors appreciate the traditional cultural values of the park, and would help them understand the depth of respect and caring tribes have for Washita. Interpretive trails would allow visitors to see the areas where the conflict occurred and would improve their overall understanding of the events before, during, and after the battle.

Placement of the visitor center offsite would recognize the special nature of the park as hallowed ground. Space would be available in the offsite visitor center for tribes to conduct demonstrations or other activities that might be inappropriate to conduct onsite.

Development site designs were structured to avoid impacts on culturally sensitive areas. For example, the reburial site lies outside of the proposed development zone in a non-public use area where it would not be affected by development or secondary activities. The park would continue to consult with tribes to ensure that no ethnographic resources are affected.

By locating the visitor center offsite, and by increasing visitors' sensitivity to the American Indian concerns, the potential for removal of offerings and intrusions on Indians' religious activities would be reduced. Implementation of this alternative would result in minor, long-term, beneficial impacts to ethnographic resources.

Cumulative Effects. Over time, American Indians cultural traditions have been lost or diminished as governmental policies, non-Indian educational programs, and television effect cultural changes. Increasingly, fewer Indian children learn their native language, and there are fewer practitioners to conduct religious ceremonies. In many areas, access to areas traditionally used historically has been restricted. These trends are expected to continue in the foreseeable future.

When the impacts of the preferred alternative are combined with the cultural changes mentioned above, there would be both beneficial and adverse impacts (e.g., cultural change would continue in the future, a long-term minor to moderate adverse cumulative effect on the traditional culture/ethnographic values of several American Indian tribes). However, the preferred alternative would temper this adverse effect slightly by making access for tribes easier and by helping to educate the public about the special nature of Washita.

Conclusion. Potential short-term minor adverse impacts of construction affecting tribes would be avoided by tribal notifications. Implementation of this alternative would have minor, long-term beneficial impacts on ethnographic resources within the park by locating the visitor center offsite, increasing public understanding, and demonstrating respect for tribal concerns.

Cumulatively there would still be a long-term, minor to moderate adverse effect on the traditional values of Indian tribes, but these impacts would be tempered by improved access for tribes and increased visitor understanding.

Collections

Analysis. Cooperative efforts to document artifacts removed from the park before NPS acquisition and to acquire copies of archival materials would enhance the park's collections and provide crucial opportunities for interpretation and research. New facilities would provide appropriate curatorial storage and work space for researchers. These changes would have a long-term, moderate beneficial effect on the collections, including their interpretive and research potential.

Cumulative Effects. Over time collections and archival materials relating to the historic site have been scattered among individuals and institutions across the nation. Access to these research materials has been difficult or impossible for many researchers.

Archeological resources have been removed from their original context, and their provenience lost. Past curation and conservation of these items, and accountability for them, has been variable and often inadequate, resulting in adverse impacts. This situation would likely continue in the future.

However, when the benefits of the preferred alternative were combined with these past and continuing adverse impacts, the resulting long-term effect would be to reduce or ameliorate many of these negative impacts. For example, in cooperation with institutions and individuals, relevant archival and archeological materials could be acquired by the park where they could be properly documented and curated.

This would help to reduce many of these previous adverse cumulative impacts, eventually, resulting in long-term, minor beneficial cumulative impacts on collections and archival materials relevant to the park's significance.

Conclusion. Implementation of this alternative would have a long-term, moderate, beneficial effect on collections through improved accountability, curation, and access for researchers. Over time, cumulative impacts would be minor and beneficial for the same reasons.

SECTION 106 SUMMARY

Under the Advisory Council on Historic Preservation regulations (36 CFR 800.9) addressing the criteria of effect and adverse effect, implementation of the preferred alternative would affect cultural resources eligible for the national register, but these affects would not be adverse.

Interpretive messages and onsite law-enforcement presence would encourage visitor stewardship and reduce the potential for unauthorized artifact collection. Park staff would monitor sites to ensure that natural processes such as rodent digging or erosion did not damage sites.

Development would occur in disturbed areas lacking significant archeological resources; these areas and archeological site locations were identified during past archeological surveys. Sites were also evaluated for national register eligibility.

An appropriate level of survey, testing, and archeological monitoring would accompany

prairie restoration so no adverse impacts on important cultural resources would be expected.

Mitigation measures described above and at the end of the "Alternatives, Including the Preferred Alternative" part would be employed to ensure that archeological resources are not adversely affected.

The roadway, railroad grade, overlook, and trailhead would intrude on the cultural landscape. A variety of measures, including vegetative n screening and attention to mass, scale, location, and use of natural appearing materials would be employed so that the overall impact on the landscape would not be adverse.

The park would work with visitors to prevent loss of offerings or disturbance of religious activities by visitors so that no adverse impacts would occur to ethnographic resources. Tribes would be informed about dates of construction to prevent adverse impacts should access to the park be limited by development work, heavy vehicles, etc.

New facilities and programs would benefit collections by providing increased resource protection and preservation, additional research potential, acquisition of badly needed materials, and heightened accountability for collections. The end result would be beneficial to collections and archival materials.

The park would work cooperatively with their neighbors and with the Forest Service to help protect resources in the national historic landmark district. No adverse impacts on cultural resources in the district would be expected.

Should presently unknown resources be discovered during on-going park programs or construction, mitigation would be carried out under guidance of the Advisory Council on Historic Preservation procedures (36 CFR 800).

IMPACTS ON NATURAL RESOURCES

Soils

Analysis. The presence of a hardened trail surface would cause localized minor to moderate, long-term erosion problems as a result of a loss of soil permeability and increased precipitation runoff created by the hardened pavement. These impacts would be greatest in association with trail areas occurring on slopes. Vegetation losses along the trail edges and associated soil compaction would be expected from visitor use, further contributing to localized soil erosion issues.

Temporary erosion issues resulting from trail and parking facility developments would be mitigated by limiting the amount of time that bare soil was left exposed and by use of appropriate erosion control measures (e.g., silt fencing and erosion matting). Revegetation with native plants of the disturbed work zones upon completion of construction activities would also assist in minimizing impacts to soil resources. Placement of aesthetically blending barriers (e.g., wood fencing) around the small unpaved parking facility at the west end of the park would assist in minimizing vehicle trespass (and, thus, impacts to soil resources) beyond the identified parking limits.

Minor, temporary increases in soil erosion would also occur as a result of restoration activities that require ground disturbance

(e.g., restoration of former agricultural fields) but would result in overall long-term benefits to soil resources in the park through stabilization with native vegetation.

High potential exists for off-trail visitor use within the designated "contemplative" and "extended learning" zones under the preferred alternative. Creation of social trails would result in vegetation trampling/loss, soil compaction, and localized erosion problems, especially on sloped land areas. Impacts could be minor to moderate, and long-term depending on the extent of off-trail visitor use. Adverse impacts would be partially mitigated by monitoring off-trail use and by closure and restoration of off-trail areas should they become unacceptably impacted. Areas susceptible to erosion would be monitored and appropriate erosion control measures (e.g., silt fencing, slope stabilization) would be applied. Long-term natural erosion processes would continue under the preferred alternative.

Negative, long-term impacts to local soil horizons, increased soil compaction, loss of soil permeability, moisture content, and soil water storage capacity would occur in areas affected by construction of the offsite visitor center/administrative and maintenance facilities and associated new parking facility. A total of 11.5 acres of soils would be disturbed by the construction. The construction would take place primarily on 7.5 acres of land that has been developed with Forest Service facilities. Most all of the other 4 acres has been used for equipment storage. There would be approximately 0.75 miles of utility lines for water and sewage connection to the city and this would disturb about 0.25 acres.

Cumulative Effects. Minor to moderate adverse impacts to soil resources through accelerated erosion would continue on lands surrounding the national historic site as a result of historic and ongoing agricultural practices.

Conclusion. Minor, long-term impacts to soil resources (e.g., compaction and erosion) would occur adjacent to trail edges and as a result of off-trail use within the "extended learning" and contemplative management zones. Restoration of natural topography and the stabilization of previously disturbed lands with native vegetation would result in long-term beneficial impacts for the park as a whole.

Air Quality

Analysis. Predicted increases in park visitation, coupled with existing traffic patterns and vehicle use, would likely result in negligible to moderate increases in localized air emissions with temporary minor impacts to near-range visibility. Impacts would be greatest during seasons of peak visitation (summer months) while negligible to minor during the off season (winter months). Impacts to local air quality would be minimized by requesting vehicles to turn off engines when parked.

Short-term, minor to moderate impairments to local air quality and visibility would occur as a result of onsite construction of a new parking facility (trailhead) and trail system. Offsite construction of the visitor center would also result in temporary adverse impacts to localized air quality and near-range visibility. These impacts would include increases in air particulates (fugitive dust) and increased vehicle emissions from heavy/motorized equipment use. Mitigating measures, such as watering to keep dust levels down, would be used to

minimize temporary impacts to air quality and visibility.

Minor, long-term adverse impacts to local air quality would occur as a result of increases in vehicle emissions related to both on- and offsite parking (including the addition of parking for buses).

Temporary minor to moderate adverse impacts to air quality and visibility would also occur during restoration activities such as prescribed burning and plowing. These activities would be mitigated by burning only under conditions that allow for maximum smoke dispersal and by minimizing ground disturbance activities (e.g., plowing) under exceptionally windy, dry conditions.

Cumulative Effects. Roger Mills County remains predominately rural with agriculture serving as the dominant land use. Additional external factors associated with seasonal agricultural practices could contribute to temporary impairments to localized air quality and visibility. Use of agricultural equipment would result in increases in vehicle emissions and in air particulates (e.g., fugitive dust). Vehicle emissions and residential and commercial developments in the nearby town of Cheyenne serve as added minor, long-term sources of localized air pollution. Air quality issues outside the park would be addressed through cooperative efforts between the National Park Service, associated landowners, and the Oklahoma Department of Environmental Quality.

Conclusion. The proposed alternative would result in overall minor, long-term adverse impacts to localized air quality and visibility as a result of increased visitation and associated vehicle emissions. Short-term (1-2 days), minor to moderate impacts to air quality would occur as a result of prescribed burning and other restoration activities that require ground disturbance (e.g., creation of fugitive dust).

Water Quality

Analysis. Minor, temporary impacts to water quality would occur as a result of increased sediment runoff during onsite construction of parking and trail facilities and during construction of the offsite visitor center. Temporary impacts to water quality would be mitigated through use of appropriate erosion control measures during construction operations. Regular inspections of equipment could guard against any potential adverse impact to surface or ground water as a result of leakage of petroleum-based or other hazardous chemical substances (e.g., hydraulic fluid). Equipment operators would be required to stop work and immediately contact the park superintendent should any leaks or breakage of equipment fluid lines occurred.

Minor to moderate, long-term, adverse impacts to water quality are likely to result from increased, onsite, vehicle parking and associated runoff of petroleum-based (and other) chemicals. These impacts would be minimized through proper parking facility design and inclusion of a runoff filtration system for the new trailhead parking facility.

Increased soil erosion, in association with hardened trail surfaces, are likely to result in minor to moderate, long-term increases in sediment runoff. Erosion and sediment runoff would also increase if development of social trails occurred within the designated “contemplative” and “extended learning” zones. Impacts would be partially mitigated by monitoring and re-

vegetation of trail edges, and through visitor education.

Restoration activities under the no-action alternative would result in long-term benefits to water resources within the park by establishing healthy stands of native vegetation, reducing the land area susceptible to erosion, and by reducing rates of sediment and surface water runoff (e.g., increased water filtration).

Cumulative Effects. There are numerous potential sources of water contamination in the Washita River watershed upstream of the battlefield. Potential sources include wastes emitted from livestock, humans, and wildlife, leaching of fertilizers and pesticides from surrounding agricultural lands, leachate from unlined drilling-mud disposal pits near the river, oil drilling and production, and from volatile organic compounds (VOCs) used or spilled at an airport and other commercial establishments upgradient from the national historic site (NPS/WRD Project Proposal, 1999).

Preliminary water quality testing of the Washita River (within the park) has identified the presence of EPA acceptable levels of four pesticides (Atrazine, Deethylatrazine, Prometon, and Tebuthiuron) and seasonally high counts of fecal coliform and fecal streptococcal bacteria which substantially exceeded the states primary contact standards for swimming. Sources for the pesticide and fecal bacteria detected are external to the park and are most likely associated with upstream agricultural land uses.

Potential impacts to water quality within the Washita River may also occur as a result of the proposed expansion of a waste pit facility 2 miles to the west (upstream) of the park. Until recently, this facility consisted of a commercial saltwater disposal well used primarily for the injection of saline waters produced in the oil and gas drilling process into a deep aquifer. The facility has received approval from the Oklahoma Corporation Commission to expand commercial operations by developing three 350' x 1150' earthen pits (evaporative ponds) for the disposal of oil field wastes including water-based drilling fluids and/or cuttings and salt-contaminated soils (Reber, et. al. 1999). These new disposal pits would lie approximately ¼ mile up gradient from the Washita River.

Water pollution issues occurring outside the park would be addressed through cooperative efforts between the National Park Service, associated landowners, and the Oklahoma, Department of Environmental Quality.

Conclusion. Localized, minor to seasonally moderate, long-term, adverse impacts to surface waters would occur near the visitor parking facilities as a result of runoff of petroleum-based materials associated with increased onsite vehicle use. Overall, long-term beneficial impacts to water quality would occur as restoration activities progressed, reducing rates of sediment and surface water runoff.

Vegetation

Analysis. Permanent vegetation loss would occur with the construction and development of new trail extensions, the hardening of trail surfaces, and the development of both the trailhead parking (paved) and west-end (unpaved) parking facilities. Impacts to vegetation would be minimized during trail and parking facility developments by limiting access routes for equipment and machinery and by limiting the size of the work zone to only the minimum

area required. Onsite presence of park staff during construction activities would also serve to minimize adverse impacts to park vegetation resources.

Minor, long-term adverse impacts to native vegetation would be expected in areas immediately adjacent to parking facilities and adjacent to trail edges. These impacts would include trampling/loss of native vegetation, soil compaction, accelerated soil erosion on sloped topographies, and the development of appropriate conditions of the spread and establishment of non-native plant species. Impacts associated with parking facilities would be minimized by the placement of aesthetically blending barriers (e.g., wood fencing) around parking facilities to constrain visitor access to defined trail areas. Use of a barrier is especially important for the small unpaved parking facility at the west end of the park to assist in minimizing vehicle trespass (and, thus, impacts to vegetation resources) beyond the identified parking limits.

Additional vegetation losses would occur as off-trail visitor uses increase within the "contemplative" and "extended learning" zones. Habitat fragmentation throughout the entire center portion of the park would increase as a result of both official and unofficial trail expansions. Diligent monitoring of visitor use areas for signs of disturbance and timely re-vegetation of disturbed areas with native species would also minimize impacts to vegetation resources.

Historic alterations to vegetation as a result of agricultural land uses, fire suppression, non-native plant establishment, and alterations natural hydrologic processes (e.g., flooding) have resulted in substantial modification to vegetation resources as compared to the 1868 time period. Historic degradation (or loss) of native vegetation is most notable within the riparian and floodplain communities within the park. These community types are dominated by aggressive non-native plants such as tamarisk, old world bluestem, and downy brome.

Although no formal developments have been proposed for the riparian corridor, unsolicited use might occur as a result of visitors attempting to get closer to the river's edge. Social trail development within the riparian corridor would result in minor, adverse impacts as identified above for the "contemplative" and "extended learning" zones. Removal of vegetation from riverbank areas would add additional impacts related to destabilization and accelerated bank erosion. Again, these impacts would be mitigated by monitoring, revegetation of disturbed areas, and visitor education.

Parkwide restoration activities, including the use of prescribed fire, integrated weed (non-native plant) management, the removal of all or portions of the abandoned railroad grade, and the subsequent re-establishment of healthy native plant communities within the park would result in major, long-term benefits to vegetation resources.

Cumulative Effects. Historic alterations through agricultural land uses, fire suppression, establishment of non-native species, and alterations to natural hydrologic processes have resulted in substantial degradation to the regional vegetative resources. Historic and current, unmitigated over-grazing and agricultural cropping activities have resulted in have resulted in regionwide losses of native plant diversity and reductions in overall plant community health. These impacts would have

moderate adverse impacts to the parks vegetative resources through substantial reductions in natural plant recruitment/migrations and through loss of potential for genetic exchange.

Although the park would work cooperatively with local landowners to resolve external invasive plant issues, the presence of numerous unmitigated populations of non-native plant species external to the park represents a long-term moderate threat (potential for re-invasion) to park vegetation.

Conclusion. Localized, minor, long-term impacts would occur to vegetation resources. Adverse impacts associated with proposed visitor use would include vegetation trampling and loss, soil compaction and erosion, and the unintentional spread of non-native plant species. These impacts would increase as the level of habitat fragmentation increased. Overall, long-term benefits to parkwide vegetation resources would occur as a result of planned restoration actions. Benefits would include increases in native plant diversity and substantial increases in plant community health and stability.

Wildlife

Analysis. Temporary displacement and minor direct loss of wildlife species would occur during construction activities associated with the proposed trail expansion/hardening and development of new parking facilities. These impacts would likely affect smaller, less mobile wildlife species (e.g., amphibians and reptiles), or species with smaller home ranges.

The placement of additional onsite visitor parking would moderately increase temporary wildlife displacements as a result of increases in vehicle/visitor levels, and associated noise, especially during periods of peak visitation. Use of a larger area of the park as "contemplative" and for "extended learning" would also result in increased potential for wildlife/visitor interactions. Habitat fragmentation would increase over existing levels as a result of official and unofficial (e.g., social trails) trail expansions. Increased ambient noise levels would have minor adverse impacts to wildlife species, especially those that are noise sensitive or that relying on sound for communications or for breeding. There may be minor selection for those wildlife species that are more noise tolerant.

Habitat loss as a result of previous human disturbances and the presence of numerous non-native plant species substantially threaten the wildlife diversity at the park. These historic impacts would be partially mitigated through restoration activities that would re-establish native plant communities. Although restoration activities would have short-term adverse impacts on some wildlife species as a result of temporary losses in vegetative cover and minor increases in ambient noise levels, the end result would be substantial enhancement of habitats for wildlife use.

Use of prescribed fire would be timed to avoid major breeding seasons for sensitive wildlife species (e.g., amphibians, reptiles, ground nesting birds). "Walk-throughs" of areas to be included in a prescribed burn would be performed immediately before any fire ignition to chase or alert wildlife species. Ground burrowing animals would be insulated from fire effects by soil depths of 1 inch or more.

Cumulative Effects. Regional wildlife has been historically affected by agricultural land uses (grazing and cropping), fire

suppression, hydrologic alterations, and the introduction of non-native species. Cumulative impacts would be moderate to major, long-term adverse to regional wildlife species diversity. The contribution of the historic site would be small in comparison to the total cumulative impact.

Conclusion. This alternative would result in predominately minor, short-term, adverse impacts to various wildlife species that live in or travel near the park area. Impacts would be most notable during periods of onsite trail and parking development and during peak visitation. There would be overall long-term, substantial benefits to wildlife species as a result of restoration and the enhancement of habitats for wildlife use.

Natural Soundscapes

Analysis. Minor to moderate, short-term impacts to natural sounds would be experienced as a result of ambient noise originating from offsite sources (e.g., passing cars, farm machinery). Moderate to major, short-term, adverse impacts to natural soundscapes would be expected during construction of onsite parking and trail facilities (e.g., heavy equipment use). Construction noise impacts to visitors would be mitigated by performing work, as much as possible, during nonpeak visitor seasons. Construction noise impacts to wildlife would be minimized by avoiding sensitive time periods related to reproductive cycles (e.g., frog calling).

Minor to moderate, short-term increases in ambient noise levels would occur as a result of increased levels of onsite parking and visitor use. These disturbances would be more prevalent during periods of peak visitation (summer months) and would be negligible to minor during off-peak winter months. Increases in ambient noise level would be partially mitigated by requesting that all vehicle engines be shut off when parked. Distribution of visitors over a larger trail system would also serve to mitigate some noise impacts associated with visitor use.

Cumulative Effects. Surrounding land uses are minimally disruptive to natural soundscapes. Cumulative impacts would be negligible to minor, long term, and adverse.

Conclusion. Minor to major, short-term increases in noise levels would occur during construction activities proposed under the preferred alternative. Minor to moderate, short-term disturbances to natural soundscapes would be experienced during periods of peak visitation under the preferred alternative.

IMPACTS ON VISITOR USE, EXPERIENCE, AND INTERPREATION

Analysis

Under this alternative visitor use would continue to grow at a moderate pace. The construction of an offsite visitor center would probably attract more visitors than the no-action alternative. The average length of stay would be longer than in the no-action alternative because visitors would spend considerable time at the visitor center, particularly if there were special events or demonstrations available, before heading out to the site itself. An increased length of stay would increase the likelihood that visitors understand and appreciate park themes and significance, yielding a moderate positive long-term impact on the visitor experience.

A visitor center at the Forest Service site would provide visitors with a conveniently located facility to receive an extensive orientation to the park, its themes, and its significance. Increased understanding of park themes and significance would increase resource stewardship and visitor enjoyment. Combining facilities and interpretation with the Forest Service would provide added convenience for visitors and increase the breadth of the interpretation of natural and cultural resources. Locating the visitor center on the Forest Service site, with its expanded views, would provide visitors with opportunities to understand more of the story and more of the context of the events of the Washita. Cultural demonstrations at the visitor center would increase visitor understanding of and respect for other cultures. These combined actions would increase visitor understanding and enjoyment of the site and its significance and themes. This would result in moderate, long-term positive impacts on the visitor experience.

The development of a visitor center would provide new opportunities to cooperate and coordinate with the Cheyenne Arapaho tribe to provide educational programs and demonstrations. The visitor center would also provide enhanced opportunities for visitors to learn of the variety of regionally available experiences and opportunities to learn about Cheyenne Arapaho culture. These actions would increase visitor and local community members' understanding of Washita battlefield, the events that occurred there, and the significance of the park. This would provide a minor to moderate positive impact on the visitor experience at the park.

Some continuity in mood and experience would be lost when visitors exited the visitor center, had to reload in their vehicle, and drive out to the park. It is also possible that some visitors would bypass the visitor center and head straight out to the site, missing the opportunity to learn about the park themes and significance. This would have a moderate, long-term negative impact on those visitors who missed the visitor center, and a minor, negative long-term impact on those visitors who lost continuity in mood.

Locating the visitor center offsite would keep the noise and visual intrusions of the visitor center away from the park and tend to allow the onsite experience to be quiet and reflective.

Those visitors wishing to have a reflective experience would have additional opportunities for this type of experience in the small contemplative area on the west side of the park. This area would also provide relatively easy access to the river for those visitors who wish to experience the river.

Overall, visitors would experience the site with less landscape intrusions than the no-action alternative. The redesigned overlook would have less of a visual impact on the historic scene, providing visitors with a better opportunity to imagine the site as it was in 1868. However, increased vehicular parking at the overlook would have an impact on the visual scene. Visitors would experience a more restored landscape onsite, indicative or evocative of the 1868 appearance. These actions would combine to provide a moderate long-term positive impact on visitors' opportunity to appreciate and reflect upon the park's themes and significance.

Because there would be minimal communication between the visitors onsite and park staff or emergency services, the response time for visitor emergencies could

be long. This could have a minor, long-term negative impact on visitor safety.

Cumulative Effects

As previously mentioned, under this alternative there would be increased coordination with the Cheyenne Arapaho tribe to provide educational opportunities and demonstrations. The visitor center would provide visitors and local residents with information about other related sites where they could learn more about the event and the Cheyenne Arapaho. In addition to this National Park Service action, several regional historical groups and tribes are developing organized tours of cultural and historical sites in Oklahoma. The new visitor center would likely be a stop on these tours, and increase the potential to educate a wider audience. The impacts of this increased audience in combination with the impacts of wider cooperation with the Cheyenne Arapaho would have a minor, long-term, positive impact on the visitor center's ability to educate a wide audience.

Under this alternative the Oklahoma Historical Society's Black Kettle Museum would likely be converted to some other museum use once the National Park Service visitor center was operational. The impacts of this action, taken in conjunction with the National Park Service construction of a visitor center under this alternative, would result in minor, positive, cumulative impacts on the educational opportunities for visitors and residents of Cheyenne.

Conclusion

Visitors would have increased opportunities to learn about and experience Washita Battlefield in a setting that is compatible with the park's significance. This alternative would result in moderate, long-term, positive impacts on the visitor experience.

IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT

Analysis

Implementation of the proposed action could have minor to moderate impacts on the socioeconomic environment of the local community. Visitation to the park would gradually increase over time, which could increase business activity in the local area. The visitor center might increase the average length of stay for visitors, leading visitors to spend slightly more time and money in the local community. This would result in increased positive benefits of a minor to moderate degree over the long-term for a small number of firms and/or individuals, mostly those related to the tourism and service industries.

Some roadwork or road widening might need to take place around the visitor center site and out to the park. Increasing visitation would also cause some increase in the amount of traffic in Cheyenne and on local highways, potentially causing some inconvenience to local residents and increased traffic hazards. This would result in minor to moderate negative impacts on local residents.

The development of a visitor center and remodeling of the overlook would provide some moderate to major, positive, short-term economic benefits for a limited number of individuals and the enterprises involved with the development. These short-term benefits would mainly be concentrated in the construction sectors, and could either be

local or regional, depending on the contractors selected.

Cumulative Effects

No known cumulative impacts on tourism, recreational opportunities, or the local and regional economy would be expected.

Conclusion

Under this alternative there would be minor to moderate, short- and long-term, positive impacts on the socioeconomic environment, with possible minor, negative, long-term impacts on road traffic in Cheyenne.

UNAVOIDABLE ADVERSE EFFECTS

There would be some alterations to the cultural landscape to accommodate visitors and their vehicles. Outside the area there would be changes due to additional traffic on the roadway.

RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Restoring the prairie vegetation within the park would enhance long-term productivity of the biological resources associated within the boundary.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The loss of soil due to construction of new facilities would be an irreversible commitment of resources. The planning team is not aware of any other irreversible or irretrievable commitments of resources that would occur.

IMPACTS OF ALTERNATIVE A

IMPACTS ON CULTURAL RESOURCES

Archeological Resources

Analysis. Visitor center programs and information at the overlook would direct visitors to non-sensitive areas of the park near the overlook, and would give visitors the opportunity to learn about the importance of protecting archeological resources. The presence of law enforcement rangers also would encourage resource stewardship.

Due to reduced opportunities for unauthorized collecting and improved stewardship of resources, long-term adverse impacts on archeological resources from unauthorized collecting would be negligible.

Archeological surveys and testing have identified the locations of archeological resources within the park and in on Forest Service land, as well as previously disturbed areas. Known resources have been evaluated for potential listing on the National Register of Historic Places. Management zones were carefully drawn to protect sites, so facilities (the visitor center/administrative facility, maintenance, overlook, and contemplative area parking) could be built in previously disturbed areas.

Mitigating measures described in Chapter 2 and in the preferred alternative, including stop-work provisions, archeological monitoring, and future testing, evaluation, and compliance, would be implemented to reduce potential loss of resources from development and restoration actions. Only a very small portion of the park would be developed so long-term adverse impacts on archeological resources from construction would be negligible.

Damage to archeological resources from natural forces such as erosion and rodent activities would continue to diminish site integrity. However, increased park personnel would allow closer monitoring and maintenance of archeological resources, and would aid in recovery of important information where sites are threatened. This would result in negligible, long-term adverse impacts on these resources.

Cumulative Effects. The cumulative impacts from unauthorized collecting, development, agriculture, and natural processes would be the same as in the preferred alternative — impacts would be long-term, moderate, and adverse.

Conclusion. Under this alternative long-term adverse impacts on archeological resources from unauthorized collecting, development, and natural processes would be negligible. Cumulative impacts on archeological resources from collecting, development, natural processes, and agricultural uses would be long-term, moderate, and adverse.

Cultural Landscape

Analysis. Moderate, short-term adverse impacts to the landscape would occur during construction with the presence of large vehicles, denuded soils, piles of materials, etc.

Construction of new facilities at the overlook and at the west end contemplative area would have some minor impacts on the overall cultural landscape. However, the new overlook would be a replacement

facility constructed in a previously disturbed area, and vegetation screening would prevent visitors from seeing the west end contemplative area from the overlook. All possible mitigating measures would be implemented. In the park and at the Forest Service site, new, carefully designed structures and landscaping with natural materials would replace existing older structures and exotic landscaping materials. Careful building design would consider mass, scale, location and use of natural appearing materials. All NPS facilities would share a unified design character.

Because trails would no longer lead down into the park, the restored landscape below the overlook would more closely resemble the 1868 scene than in any of the other alternatives.

Throughout the park, revegetation with native materials and use of topography and natural vegetation screening would be used to hide development, and help to blend new facilities unobtrusively into the surrounding landscape.

At the Forest Service site, structures would be located to provide visitors the best views of the Washita River and Sargent Major Creek drainages. These new structures would replace unsightly modern buildings. Sustainability would also be considered in this landscape.

Adverse impacts on the cultural landscape from development would be long-term, but minor due to mitigation. Long-term moderate beneficial impacts (both to the park and to the surrounding NHL) would result from prairie restoration. Overall, long-term impacts on the cultural landscape would generally be minor and beneficial.

Cumulative Effects. As described under the preferred alternative, there have been a number of adverse cumulative impacts on area landscapes for the past 140 years, including farming, homesteading, and construction of the roadway and the railroad. These changes have had a moderate long-term adverse impact on the prairie landscape of the 1860s. (The impact is moderate because the area surrounding the park remains rural and developments are relatively modest in size and visibility). Most of these activities are expected to continue into the future, although little new development or change in the immediate vicinity of the park is expected.

Alternative A proposes restoration of the cultural landscape within the park. This proposal, coupled with cooperative efforts with local landowners, would help reduce visual intrusions not only within the park, but also in the broader viewshed and NHL surrounding the park. Long-term moderate adverse cumulative impacts from past and modern developments would continue outside the park. However these impacts would be reduced incrementally through beneficial park restoration efforts.

Conclusion. Long-term impacts on the landscape from development and restoration activities would be both adverse and beneficial. Restoration activities would have moderate, long-term, beneficial impacts by removing intrusions and restoring the prairie. The overlook and west side contemplative area would intrude on the cultural landscape of the park, resulting in a minor, long-term, adverse impact but mitigating measures would help reduce these impacts. New facilities at the Forest Service site would have a long-term, adverse effect on the historic scene.

Long-term cumulative impacts on the landscape would be moderate and adverse but these impacts would be somewhat reduced through beneficial park restoration activities and cooperation with neighbors.

Ethnographic Resources

Analysis. Representatives of American Indian tribes participated in development of this and the other alternatives to help ensure their concerns were incorporated into the planning process. Management zones were carefully delineated to reflect tribal concerns about visitor use of sensitive areas such as Black Kettle's village or the area along the Washita River. As in the proposal, placement of the visitor center offsite clearly recognizes the special nature of the park as hallowed ground. In addition, space would be available in the offsite visitor center for tribes to conduct demonstrations or other non-religious activities that might be inappropriate to conduct onsite.

Notifying tribes of potential construction dates and locales would avoid short-term adverse impacts of construction on tribal activities. All efforts would be made to accommodate tribal needs during construction

Development site designs were structured to avoid physical impacts on culturally sensitive sites. For example, the reburial site lies outside the proposed development zone where it is not visible to the public, and where it would not be affected by development or secondary activities. The park would continue to consult with tribes to ensure that no ethnographic resources are affected.

Visitors would be directed to the overlook where interpretive messages would help them appreciate the park's traditional cultural values as well as the respect and caring that tribes have for Washita. On one hand, because visitors would not be invited to move through the park, the hallowed nature of the park would be emphasized. Conversely, viewing the scene from afar (the overlook) could reduce overall visitor understanding of the conflict and appreciation for American Indians' viewpoint of the battle.

There would be few opportunities for visitors to impact sites valued by American Indian tribes, or to inadvertently disturb tribal religious activities. Implementation of this alternative would have long-term, minor beneficial impacts on ethnographic resources.

Cumulative Impacts. The cumulative impacts of this alternative would be the same as described in the preferred alternative — long-term, minor to moderate impacts on traditional values would be tempered by improved tribal access and increased visitor sensitivity to tribal concerns.

Conclusion. Implementation of alternative A would improve visitor appreciation for and understanding of American Indian concerns and traditions resulting in long-term, minor beneficial impacts on ethnographic resources.

Cumulatively there would still be a moderate, long-term, adverse effect on the traditional values of Indian tribes, but these impacts would be tempered by improved access for tribes and increased visitor understanding of American Indian concerns.

Collections

Analysis. Cooperative efforts to document artifacts removed from the park prior to NPS acquisition and to acquire copies of archival materials would enhance the park's collections and provide new opportunities for interpretation and research. New facilities would provide appropriate curatorial storage and work space for researchers. Implementation of Alternative A would have a long-term, moderate beneficial effect on collections.

Cumulative Impacts. The cumulative impacts of alternative A would be the same as the preferred alternative. That is, the beneficial effects of acquiring relevant materials, new opportunities for research, and appropriate facilities would reduce many of the adverse impacts of lack of accountability, scattered collections, and lack of research facilities. The end result would be long-term, minor beneficial cumulative impacts.

Conclusion: Implementation of alternative A would have a long-term, moderate beneficial effect on collections, including archival materials. Cumulative impacts would also be long-term, minor to moderate, and beneficial.

SECTION 106 SUMMARY

Under the Advisory Council on Historic Preservation regulations (36 CFR 800.9) addressing the criteria of effect and adverse effect, the NPS finds that implementation of alternative A would affect archeological resources, cultural landscapes, ethnographic resources, and park collections, but that this effect would not be adverse.

Interpretive messages and onsite law-enforcement presence would encourage visitor stewardship, and reduce the potential for unauthorized artifact collection. Visitors would not have access to sensitive areas. Park staff would monitor sites to ensure that natural processes such as rodent digging or erosion do not damage archeological resources.

Development would occur in disturbed areas lacking significant archeological resources; these areas and archeological site locations were identified during past archeological surveys. Sites have been evaluated for national register eligibility.

An appropriate level of survey testing would accompany prairie restoration and archeological monitoring, and no adverse impacts on important cultural resources would be expected.

Mitigation measures described above under the preferred alternative and in the "Alternatives, Including the Preferred Alternative" part would be employed to ensure that archeological resources were not adversely affected.

The roadway, railroad grade, overlook, and trailhead would continue to intrude on the cultural landscape. A variety of measures, including vegetation screening, attention to mass, scale, location and use of natural appearing materials would be employed so that the overall impact on the landscape would not be adverse.

The park would work with visitors to prevent loss of offerings or disturbance of religious activities by visitors so that no adverse impacts would occur to ethnographic resources.

New facilities and programs would benefit collections by providing increased resource

protection and preservation, additional research potential, acquisition of badly needed materials, and heightened accountability for collections. The end result would be beneficial to collections and archival materials.

The park would work cooperatively with their neighbors and with the U.S. Forest Service to help protect resources in the national historic landmark district. No adverse impacts on cultural resources in the district are expected.

Should unknown resources be discovered during ongoing park programs or construction, mitigation would be carried out under guidance of the Advisory Council on Historic Preservation procedures (36 CFR 800).

IMPACTS ON NATURAL RESOURCES

Soils

Analysis. This alternative would eliminate most of the existing mowed trail area, limiting visitor access to upland areas more immediate to the overlook parking facility. A small unpaved parking lot would be created at the west end of the park. Adverse impacts resulting from existing trail use (e.g., vegetation loss, soil compaction, and minor erosion) would be mitigated and restored to native vegetation.

Permanent soil loss and mixing of soil horizons would occur as a result of constructing the offsite visitor center. A total of 11.5 acres of soils would be disturbed for construction of the offsite visitor center/administration and maintenance facilities. The construction would take place primarily on 7.5 acres of land that has been developed with Forest Service facilities. Most of the other 4 acres has been used for equipment storage. Additional short-term, minor to moderate impacts might occur through soil compaction and erosion during construction activities. These impacts would be mitigated by limiting the area of construction activities to the minimum area needed and through use of appropriate erosion control measures (e.g., silt fencing, erosion matting). There would be approximately 0.75 miles of utility lines for water and sewage connection to the city and this would disturb about 0.25 acres.

Moderate, long-term impacts to soil resources (predominately compaction) would occur as a result of development of the small unpaved parking lot. Placement of aesthetically blending barriers (e.g., wood fencing) around the small unpaved parking facility at the west end of the park would assist in minimizing vehicle trespass (and, thus, impacts to soil resources) beyond the identified parking limits.

Minor, short- and long-term impacts to soil resources would occur in association with development of primitive trails within the contemplative zone. Impacts would include trampling/loss of vegetation, soil compaction, and localized erosion, especially on sloped land areas. These impacts would be much more limited as compared to the no-action alternative and would be easily mitigated by monitoring, re-vegetation of disturbed areas, and visitor education.

Minor, temporary increases in soil erosion would also occur as a result of restoration activities that require ground disturbance (e.g., restoration of railroad grade and former agricultural fields) but would result in overall long-term benefits to soil resources in the park through stabilization with native vegetation.

Long-term natural erosion processes would continue under alternative A.

Cumulative Effects. Minor to moderate adverse impacts to soil resources through accelerated erosion would continue on lands surrounding the national historic site as a result of historic and ongoing unmitigated agricultural practices.

Conclusion. Permanent soil loss would occur as a result of construction of the offsite visitor center. Localized, moderate long-term impacts (predominately soil compaction) would occur in association with the development of the small unpaved parking facility at the west end of the park. Minor short- and long-term impacts would occur through vegetation loss, soil compaction, and localized erosion as a result of primitive trail development within the identified "contemplative" zone. These impacts would be substantially less than existing conditions due to the limited area identified for onsite visitor access.

Air Quality

Analysis. Short-term, minor to moderate impairments to local air quality and visibility would occur as a result of offsite construction of the visitor center. These impacts would include increases in air particulates (fugitive dust) and increased vehicle emissions from heavy/motorized equipment use. Mitigating measures, such as watering to keep dust levels down, would be used to minimize temporary impacts to air quality and visibility.

Predicted increases in park visitation, coupled with existing traffic patterns and vehicle use, would likely result in negligible to moderate increases in localized air emissions with temporary minor impacts to near-range visibility. Impacts would be greatest during seasons of peak visitation (summer months) while negligible to minor during the off season (winter months). Impacts to local air quality would be minimized by requesting vehicles to turn off engines when parked.

Temporary, minor to moderate adverse impacts to air quality and visibility would also occur during restoration activities such as prescribed burning and plowing. These activities would be mitigated by burning only under conditions that allow for maximum smoke dispersal and by minimizing ground disturbance activities, such as plowing, under exceptionally windy, dry conditions.

Cumulative Effects. Roger Mills County remains predominately rural with agriculture serving as the dominant land use. Additional external factors associated with seasonal agricultural practices may contribute to temporary impairments to localized air quality and visibility. Use of agricultural equipment would result in increases in vehicle emissions and in air particulates (e.g., fugitive dust). Vehicle emissions and residential and commercial developments in the nearby town of Cheyenne serve as added minor, long-term sources of localized air pollution. Air quality issues external to the park would be addressed through cooperative efforts between the National Park Service, associated landowners, and the Oklahoma Department of Environmental Quality.

Conclusion. Alternative A would result in overall minor, long-term adverse impacts to localized air quality and visibility as a result of increased visitation and vehicle emissions. Short-term (1-2 days), minor to moderate impacts to air quality would occur as a result of prescribed burning and other restoration activities that require

ground disturbance (e.g., creation of fugitive dust).

Water Quality

Analysis. Minor, temporary impacts to water quality may occur as a result of increased sediment runoff during offsite visitor center construction activities. Temporary impacts to water quality would be mitigated through use of appropriate erosion control measures during construction operations and through regular inspections of equipment to guard against potential adverse impact to surface or ground waters as a result of leakage of petroleum-based or other hazardous chemical substances (e.g., hydraulic fluid). Equipment operators would be required to stop work and immediately contact the park superintendent should any leaks or breakage of equipment fluid lines occur.

Predicted increases in visitation and associated use of the overlook parking facility would increase the potential for surface runoff of petroleum-based products and other chemicals (e.g., oil, gasoline, coolant). Elimination of the existing trail system would decrease sediment runoff into surface waters as a result of trail erosion. Negligible to minor, long-term sediment runoff would occur as a result of soil erosion issues associated with development of primitive trails within the "contemplative" zone.

Restoration activities would result in long-term benefits to water resources within the park by establishing healthy stands of native vegetation, reducing the land area susceptible to erosion, and by reducing rates of sediment and surface water runoff (e.g., increased water retention and filtration).

Cumulative Effects. There are numerous potential sources of water contamination in the Washita River watershed upstream of the battlefield. Potential sources include wastes emitted from livestock, humans, and wildlife, leaching of fertilizers and pesticides from surrounding agricultural lands, leachate from unlined drilling-mud disposal pits near the river, oil drilling and production, and from volatile organic compounds (VOCs) used or spilled at an airport and other commercial establishments upgradient Project Proposal, 1999).

Preliminary water quality testing of the Washita River (within the park) has identified the presence of EPA acceptable levels of four pesticides (Atrazine, Deethylatrazine, Prometon, and Tebuthiuron) and seasonally high counts of fecal coliform and fecal streptococcal bacteria which substantially exceeded the states primary contact standards for swimming. Sources for the pesticide and fecal bacteria detected are external to the park and are most likely associated with upstream agricultural land uses.

Potential impacts to water quality within the Washita River may also occur as a result of the proposed expansion of a waste pit facility 2 miles to the west (upstream) of the park. Until recently, this facility consisted of a commercial saltwater disposal well used primarily for the injection of saline waters produced in the oil and gas drilling process into a deep aquifer. The facility has received approval from the Oklahoma Corporation Commission to expand commercial operations by developing three 350' x 1150' earthen pits (evaporative ponds) for the disposal of oil field wastes including water-based drilling fluids and/or cuttings and salt-contaminated soils (Reber, et. al. 1999). These new disposal

pits will lie approximately ¼ mile up gradient from the Washita River.

Water pollution issues occurring external to the park would be addressed through cooperative efforts between the National Park Service, associated landowners, and the Oklahoma, Department of Environmental Quality.

Conclusion. Negligible to minor, long-term adverse impacts to water quality would occur as a result of increased petroleum-based runoff from parking facilities and as a result of localized erosion related runoff adjacent to primitive trail areas. Overall, long-term beneficial impacts to water quality would occur as restoration activities progress, reducing rates of sediment and surface water runoff (e.g., increasing water retention and filtration).

Vegetation

Analysis. Minor vegetation losses would occur immediately adjacent to the overlook area and in association with the primitive trails within the "contemplative" zone. Limitations to site access would allow for maximum restoration of vegetation communities while eliminating potential for further human-induced adverse impacts to vegetation resources.

Minor, long-term adverse impacts to native vegetation would be expected in areas immediately adjacent to parking facilities and adjacent to primitive trail edges. These impacts would include trampling/loss of native vegetation, soil compaction, accelerated soil erosion on sloped topographies, and the development of appropriate conditions of the spread and establishment of non-native plant species. Impacts associated with the west end parking facility would be minimized by the placement of aesthetically blending barriers (e.g., wood fencing) to assist in minimizing vehicle trespass (and, thus, impacts to vegetation resources) beyond the identified parking limits.

Historic alterations to vegetation as a result of agricultural land uses, fire suppression, non-native plant establishent, and alterations natural hydrologic processes (e.g., flooding) have resulted in substantial modification to vegetation resources as compared to the 1868 time period. Historic degradation (or loss) of native vegetation is most notable within the riparian and flood-plain communities within the park. hese community types are dominated by aggressive non-native plants such as tamarisk, old world bluestem, and downy brome.

The presence of numerous exotic (non-native) plant species both internal and external to the park represents a substantial threat to park vegetation resources. Exotic species impacts internal to the park would be mitigated by restoration activities and through implementation of an integrated weed management program. The park would work cooperatively with local landowners to resolve external invasive plant issues.

Short-term adverse impacts to native vegetation as a result of earth moving, and reshaping of natural contours associated with restoration of the abandoned railroad grade and previous agriculture field areas, would occur. These impacts would be mitigated by salvage of native plant materials for re-planting whenever possible and by limiting the work zone to the minimum area necessary. Prescribed burning would be used to assist in the restoration and maintenance of native plant habitats. Restoration activities would

provide overall, major, long-term benefits to park vegetation resources.

Cumulative Effects. Historic alterations through agriculture land uses, fire suppression, establishment of non-native species, and alterations to natural hydrologic processes have resulted in substantial degradation to the regional vegetative resources. Historic and current, unmitigated over-grazing and agricultural cropping activities have resulted in have resulted in regionwide losses of native plant diversity and reductions in overall plant community health. These impacts will have moderate, adverse impacts to the parks vegetative resources through substantial reductions in natural plant recruitment/migrations and through loss of potential for genetic exchange.

Conclusion. Localized, minor, long-term losses to native vegetation immediately adjacent to the overlook, west end parking facility and associated with primitive trail development would occur under alternative A. Impacts would be highly localized and would include trampling/ loss of native vegetation, soil compaction, and erosion. Restoration activities and the restriction of visitor access to a much smaller area (as compared to the no-action alternative) would result in the highest levels of long-term benefits to vegetation resources.

Wildlife

Analysis. Habitat fragmentation within the floodplain and upland habitats resulting from the existing trail system would be removed. Impacts to wildlife would be minimized under alternative A by limiting visitor access to the overlook and associated "contemplative" zone.

Adverse impacts to wildlife species resulting from ambient noise created by visitor use under existing conditions would be substantially reduced for most of the park land area under alternative A. Ambient noise levels would be increased within the smaller designated "contemplative" zone as a result of more concentrated visitor use. Short-term, minor to moderate, disruption of wildlife species as a result of concentrated noise increases adjacent to the overlook would be expected. Impacts would be greatest during periods of peak visitation (summer months).

Habitat loss as a result of previous human disturbances and the presence of numerous non-native plant species substantially threaten the wildlife diversity at the park. These historic impacts would be partially mitigated through restoration activities that would re-establish native plant communities. Although restoration activities would have short-term, adverse impact to some wildlife species as a result of temporary losses in vegetative cover and increases in ambient noise levels, the end result would be substantial enhancement of habitats for wildlife use.

Use of prescribed fire would be timed to avoid major breeding seasons for sensitive wildlife species (e.g., amphibians, reptiles, ground nesting birds). "Walk-throughs" of areas to be included in a prescribed burn will be performed immediately prior to any fire ignition to chase or alert wildlife species. Ground burrowing animals would be insulated from fire effects by soil depths of 1 inch or more.

Alternative A would also afford the best opportunity to restore, non-controversial, extirpated wildlife species as found appropriate.

Cumulative Effects. Regional wildlife has been historically affected by agricultural land uses (grazing and cropping), fire suppression, hydrologic alterations, and the introduction of non-native species. Cumulative impacts would be moderate to major long-term adverse to regional wildlife species diversity. The contribution of Washita is very small in comparison to the total cumulative impacts.

Conclusion. This alternative would result predominately minor to moderate, short-term, adverse impacts to various wildlife species that live in or travel near the overlook and associated "contemplative" zone. Impacts would be most notable during periods of peak visitation. There would be overall long-term, major benefits to wildlife species as a result of restoration activities and limited visitor access resulting in the substantial enhancement of habitats for wildlife use.

Natural Soundscapes

Analysis. Temporary impacts to natural sounds are currently experienced as a result of noise originating predominately from offsite areas (passing cars, farm machinery). Minor increases in ambient noise levels are expected with increases in park visitation. Disturbances to natural soundscapes will be more prevalent during periods of peak visitation (summer months) and predominately limited to the overlook and associated "contemplative" zone.

Cumulative Effects. Surrounding land uses are minimally disruptive to natural soundscapes. Cumulative impacts would be negligible to minor, long term, and adverse.

Conclusion. Although alternative A would provide greater long-term benefits to wildlife species through the reduction in disruptions to natural soundscapes, the limited area identified for visitor use would have seasonal, minor to moderate adverse impact to park visitors. Increases in visitor concentrations within a smaller unit of area would result in a diminished ability for the visitor to enjoy natural sounds.

IMPACTS ON VISITOR USE, EXPERIENCE AND INTERPRETATION

Analysis

Under this alternative visitor use would continue to grow at a moderate pace. The construction of a visitor center offsite would probably attract more visitors than the no-action alternative. The average length of stay would be longer than in the no-action alternative because visitors would spend considerable time at the visitor center, particularly if there were special events or demonstrations available, before heading out to the site itself. Increased visitor stays would likely increase visitor understanding and enjoyment of park resources and significance, yielding a moderate, positive, long-term impact on the visitor experience.

A combined-agency visitor center at the Forest Service site would provide visitors with a convenient place to receive an extensive orientation to the park, its themes, and its significance. Increased understanding of park themes and significance would increase resource stewardship and visitor enjoyment. Combining facilities and interpretation with the Forest Service would provide added convenience for visitors and increase the breadth of the interpretation of natural and cultural resources. Locating the visitor center on the Forest Service site, with its expanded views, would provide visitors

with opportunities to understand more of the story and more of the context of the events of Washita. Cultural demonstrations at the visitor center would increase visitor understanding of and respect for other cultures. These actions would yield a moderate, positive, long-term impact on the visitor experience by increasing visitor understanding and enjoyment of the site and its resources.

The development of a visitor center would provide new opportunities to cooperate and coordinate with the Cheyenne Arapaho tribe to provide educational programs and demonstrations. The visitor center would also provide enhanced opportunities for visitors to learn of the variety of regionally available experiences and opportunities to learn about Cheyenne Arapaho culture. These actions would increase visitor and local community members' understanding of Washita battlefield, the events that occurred there, and the significance of the park. This would provide a minor to moderate, positive impact on the visitor experience at the park.

Some continuity in mood and experience would be lost when visitors exited the visitor center, had to reload in their vehicle, and drive out to the site. It is also possible that some visitors bypass the visitor center and would head straight out to the site, missing the opportunity to learn about the park themes and significance. This would result in moderate, long-term negative impacts for those visitors who missed the visitor center, and minor, long-term negative impacts for those visitors who lost continuity in mood and experience.

Visitors would learn the entire story at the offsite visitor center but would have the opportunity to visit a few areas of the park to further enhance their learning experience.

The overlook's impact on the historic scene would be reduced when the overlook was redesigned. Visitors would experience a more restored landscape onsite, helping them imagine and appreciate the events of 1868.

Minimal facilities and high-quality localized interpretation would help visitors feel that the park is something sacred, something hallowed. This would have a moderate, positive, long-term impact on those visitors who value the site as a reflective and sacred experience.

Those visitors wanting to access the entire park might be disappointed by the lack of trails or other onsite facilities. Visitors with mobility impairments would have access to the river. Visitors would get less of a first-hand experience of the site and its resources, and would therefore not understand the park story as intimately. This would have a moderate, long-term, negative impact on visitors' ability to understand and appreciate the site and its significance.

Those visitors wishing to have a reflective experience would have opportunities for this type of experience in the small contemplative area on the west side of the park and the area surrounding the overlook. This area also would provide relatively easy access to the river for those visitors who wish to experience the river.

This alternative would proactively manage for a contemplative onsite experience with little to no onsite visitor use. This would provide moderate long-term positive impacts for those visitors who do not think visitors should be encouraged to walk on the battlefield site.

Because there would be minimal communication between onsite visitors and park staff

or emergency services, the response time for visitor emergencies could be long. This could have a minor, negative, long-term impact on visitor safety.

Cumulative Effects

As previously mentioned, under this alternative there would be increased coordination with the Cheyenne Arapaho tribe to provide educational opportunities and demonstrations. The visitor center would provide visitors and local residents with information about other related sites where they could learn more about the event and the Cheyenne Arapaho. In addition to this National Park Service action, several regional historical groups and tribes are developing organized tours of cultural and historical sites in Oklahoma. The new visitor center would likely be a stop on these tours and increase the potential to educate a wider audience. The impacts of this increased audience, in combination with the impacts of wider cooperation with the Cheyenne Arapaho, would have a minor, positive, long-term impact on the visitor center's ability to educate a wide audience.

Under this alternative the Oklahoma Historical Society's Black Kettle Museum would likely be converted to some other museum use once the National Park Service visitor center was operational. The impacts of this action, taken in conjunction with the National Park Service construction of a visitor center under this alternative, would result in minor, positive impacts on the educational opportunities for visitors and residents of Cheyenne.

Conclusion

Visitors would have increased opportunities to learn about Washita Battlefield but minimal first-hand opportunities to experience the park. This alternative would result in minor**,** long-term positive impacts on the visitor experience.

IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT

Analysis

Implementation of alternative A could have moderate impacts on the socioeconomic environment of the local community. The visitor center might increase the average length of stay for visitors, leading visitors to spend slightly more money in the local community. Visitation to the park would gradually increase over time, which could increase business activity in the local area. These actions would result in increased positive benefits of a minor to moderate degree over the long term for a small number of firms and/or individuals, mostly those concentrated in the tourism and service industries.

Some roadwork or road widening might need to take place around the visitor center site. Increasing visitation would also cause some increase in the amount of traffic in Cheyenne and on local highways, potentially causing some inconvenience to local residents and increased traffic hazards. This would result in minor to moderate, negative, long-term impacts on local residents.

The development of a visitor center and site work would provide some moderate to major, positive, short-term economic benefits for a limited number of individuals and the enterprises involved with the development. These benefits would mostly be concentrated in the construction and materials sectors, and could either be local

or regional depending on the contractors selected.

Cumulative Effects

No known cumulative impacts on tourism, recreational opportunities, or the local and regional economy would be expected.

Conclusion

Under this alternative there would be minor to moderate positive impacts on the socioeconomic environment, both short and long term, with possible minor, negative impacts on the road traffic in Cheyenne**.**

UNAVOIDABLE ADVERSE EFFECTS

There would be some alterations to the cultural landscape to accommodate visitors and their vehicles. Outside the area there would be changes due to additional traffic on the roadway.

RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Restoring the prairie vegetation within the park would enhance long-term productivity of the biological resources associated within the boundary.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Like the preferred alternative, the loss of soil due to construction of new facilities would be an irreversible commitment of resources. The planning team is not aware of any other irreversible or irretrievable commitments of resources that would occur.

IMPACTS OF ALTERNATIVE B

IMPACTS ON CULTURAL RESOURCES

Archeological Resources

Analysis. At the onsite visitor center, visitors would have an opportunity to learn about the important role that archeological resources have in telling the story of the 1868 encounter. This understanding would have immediate reinforcement as visitors move directly into the park.

Under alternative B more areas of the park are open to visitation, increasing the potential for unauthorized collecting. However, the influence of other visitors, interpretive programs, and law enforcement presence would increase stewardship and help reduce collecting or damage to archeological resources. Adverse impacts to archeological resources would be long-term, negligible to minor.

New facilities (the visitor center/ administrative facility, the overlook, and contemplative areas would be built in previously disturbed areas inside the park. Surveys and testing have identified the locations of archeological resources, and management zones were carefully drawn to reflect locations and sensitivity of these resources.

Inventoried resources have been evaluated for listing on the National Register of Historic Places, and mitigation measures have been developed to protect significant resources. Plans for the new facilities were specially designed to avoid significant resources, stop-work provisions would be included in construction documents in case unknown resources are discovered, and an archeologist would monitor ground-disturbing activities.

However, since trails and other development would extend into more areas across the park than in other alternatives, there would be a slightly increased chance of artifact loss due to construction. Mitigation would help reduce long-term adverse impacts of development on archeological resources so impacts are minor.

Damage to archeological resources from natural forces such as erosion and rodent activities would continue to have a long-term, adverse effect. However, increased presence of park personnel would allow closer monitoring and maintenance of archeological resources, and would aid in recovery of important information where sites are threatened. This would result in negligible, long-term adverse impacts on archeological sites.

Cumulative Effects. Impacts would be the same as the preferred alternative. That is, long-term, moderate adverse cumulative effects would result from continuing hobby collecting, construction, and natural processes.

Conclusion. Interpretive messages and law enforcement presence would decrease potential for unauthorized collecting so long-term adverse impacts to archeological resources would be negligible to minor. Increased presence of park personnel would result in negligible, long-term, adverse impacts on archeological sites from natural processes.

A variety of mitigating measures would help ensure that facility development would have only minor long-term adverse impacts on archeological resources.

Cultural Landscape

Analysis. During development associated with this alternative, short-term minor adverse impacts on the cultural landscape would occur from construction (e.g., presence of heavy equipment, denuded ground surfaces, dust, and noise) which would be distracting to visitors and staff.

Restoration activities would result in long-term, moderate beneficial impacts by removing intrusions and restoring the prairie within the park. This restoration, coupled with cooperative efforts with local landowners, would help reduce visual intrusions not only within the park, but also in the broader viewshed and NHL surrounding the park.

Construction of trails, new facilities at the overlook, the west end contemplative area, and the visitor center area all would have adverse impacts on the cultural landscape. Thus all possible mitigating measures would be implemented. Careful design would consider mass, scale, location and use of natural appearing materials for facilities. All the NPS facilities would share a unified design character, and sustainability would also be considered in this landscape.

Throughout the park revegetation with native materials and use of topography and natural vegetation screening to hide trails and other facilities would help to blend facilities into the surrounding landscape. However, the visitor center and its parking area would be visible from the overlook and from other areas within the extended learning zone. The positive impacts of restoration of the park landscape would be counterbalanced by the intrusive views of these new facilities that diminish the integrity of the cultural landscape. The result would be a moderate, long-term adverse effect on the landscape.

Cumulative Effects. The cumulative impacts described for the preferred alternative would be applicable for this alternative as well. These moderate, long-term adverse cumulative impacts have resulted from a century or more of changes (towns, farms, roads, etc.) to the prairie landscape and are expected to continue in the future. However, little new development or change in the immediate vicinity of the park is expected.

When impacts of alternative B are combined with the other past, present, and foreseeable future human activities, long-term, moderate adverse cumulative impacts on the cultural landscape would result.

Conclusion. Construction would cause short-term moderate adverse impacts on the cultural landscape due to large vehicles, disturbed ground surface, etc.

Long-term impacts on the landscape would be both adverse and beneficial.

Prairie restoration would have long-term, minor beneficial impacts on the park and the surrounding NHL district by removing some intrusions and restoring the prairie.

New and replacement facilities would intrude on the cultural landscape of the park. Even with mitigation, a moderate long-term adverse impact would result.

Cumulative impacts on the landscape would be adverse, moderate and long-term. The adverse cumulative impacts on the landscape would slightly more than those described under the preferred alternative because of the visual intrusion of the larger

and more numerous visitor facilities within the park.

Ethnographic Resources

Analysis. Short-term adverse impacts of construction on tribal activities would be avoided or reduced by notifying tribes of potential construction dates and locales. All efforts would be made to accommodate tribal needs during this time.

Long-term impacts of this alternative on ethnographic resources would be both adverse and beneficial. Representatives of American Indian tribes participated in development of this and the other alternatives to help ensure their concerns were incorporated into the planning process. Management zones were carefully delineated to reflect tribal concerns about visitor use of sensitive areas such as the village site.

Visitors would be directed to non-sensitive areas, and development site designs were structured to avoid impacts on culturally sensitive areas. For example, the Extended Learning zone and visitor use trails avoid intrusion on Black Kettle's camp area. The visitor center would be placed in a previously disturbed site away from the main areas of cultural sensitivity. The park would continue to consult with tribes to ensure that no ethnographic resources are impacted.

Interpretive messages would help visitors appreciate the traditional cultural values of the park, and would help them understand the depth of respect and caring tribes have for Washita. Interpretive trails would allow visitors to see the areas where the conflict occurred, and would improve their overall understanding of the events before, during, and after the battle. All these efforts would provide moderate long-term benefits for ethnographic resources and values.

However, the presence of the onsite visitor center and trails crossing the river could at times allow visitors to intrude on the privacy tribes would like to have as they come here to commemorate the loss of their ancestors. The result would be a long-term, minor adverse effect on ethnographic resources.

Since the visitor center would be located onsite, there would not be opportunities for tribal demonstrations or other non-religious activities that might be considered inappropriate on site. For example, some demonstrations such as traditional gardens might be inappropriate on site because they might be out of keeping with the feeling that this area is hallowed ground. Such constraints would result in minor, long-term adverse impacts.

Cumulative Effects. The cumulative impacts on ethnographic resources would be similar to those described for the preferred alternative. However, there would be somewhat less guarantee of privacy for American Indians who come to conduct religious services. Over time this could create minor, adverse impacts on traditional cultural practices at a tribal level. This would tend to reduce some of the positive impact of improved access and interpretive programs.

Conclusion. Long-term moderate beneficial impacts would result from this alternative due to improved tribal access and public understanding of Indian concerns. On the other hand, American Indians might not have the privacy they desire to conduct their religious and commemorative activities, resulting in minor, long-term adverse impacts. Beneficial cumulative impacts would be reduced slightly because the onsite

visitor center would create more potential for disturbances to ceremonies that might eventually result in broader changes in tribal practices.

Collections

Analysis. The impacts of this alternative would be the same as in the preferred alternative. That is, documentation of artifacts and acquisition of archival materials would enhance the park's collections. New facilities would provide appropriate curatorial and research space.

These changes would have a moderate, long-term beneficial effect on the collections, including their interpretive and research potential. However, slightly less space would be available for curation and research facilities than in other alternatives.

Cumulative Effects. The impacts would be the same as the preferred alternative. Continuing adverse cumulative impacts from scattered collections, inadequate curation, and difficulty in research would be reduced through improved accountability, curation, and access for researchers under this alternative. The end result would be long-term, minor beneficial cumulative impacts on collections and archival materials relevant to the park's significance.

Conclusion. Implementation of this alternative would have a moderate, long-term, beneficial effect on collections through improved accountability, curation and access for researchers. Over time, cumulative impacts would be minor and beneficial, due to the same reasons.

SECTION 106 SUMMARY

Under the Advisory Council on Historic Preservation regulations (36 CFR 800.9) addressing the criteria of effect and adverse effect, the NPS finds that implementation of the Alternative B would affect cultural resources eligible for the National Register. Impacts of this alternative on archeological resources and collections would not be adverse. The cultural landscape and ethnographic values could be adversely affected.

Interpretive messages and onsite law-enforcement presence would encourage visitor stewardship and reduce the potential for unauthorized artifact collection. Park staff would monitor sites to ensure that natural processes such as rodent digging or erosion did not damage sites.

Development would occur in disturbed areas lacking significant archeological resources; these areas and archeological site locations were identified during past archeological surveys. Sites have been evaluated for national register eligibility.

An appropriate level of survey, testing, and archeological monitoring would accompany prairie restoration so no adverse impacts on important cultural resources would be expected.

Mitigation measures described above under the preferred alternative and in the "Alternatives, Including the Preferred Alternative" part would be employed to ensure that archeological resources were not adversely affected.

The overlook, road, trails, visitor center, and parking would intrude on the cultural landscape. A variety of measures, including vegetation screening, attention to mass, scale, location, and use of natural appearing

materials would be employed to reduce these impacts. However, the overall impact on the cultural landscape would be adverse, and further Section 106 compliance would be required.

The park would work with visitors to prevent loss of offerings or disturbance of religious activities. However, visitors might occasionally collect offerings or intrude on tribes who have come to the site to commemorate their ancestors. This would result in adverse impacts on ethnographic values, and necessitate further Section 106 compliance.

New facilities and programs would benefit collections by providing increased resource protection and preservation, additional research potential, acquisition of badly needed materials, and heightened accountability for collections. The end result would be beneficial to collections and archival materials.

The park would work cooperatively with their neighbors and with the U.S. Forest Service to help protect resources in the national historic landmark district. Construction of the visitor center in the district would be an adverse effect and would require further Section 106 compliance.

Should unknown resources be discovered during ongoing park programs or construction, mitigation would be carried out under guidance of the Advisory Council on Historic Preservation procedures (36 CFR 800).

IMPACTS ON NATURAL RESOURCES

Soils

Analysis. Long-term, negative impacts to local soil horizons, increased soil compaction, loss of soil permeability, moisture content, and soil water storage capacity would occur in areas affected by construction of an onsite visitor center, new parking facilities, and through expansion and surface hardening (partial or total) of the trail system. Adverse impacts to soil resources would be specifically related to the removal of natural materials in visitor center and trail construction, soil compaction as a result of grading and heavy equipment use, and/or the hardening of ground surfaces. Construction of a visitor center and administration and maintenance facilities would impact about 10 acres of land. All of the land has previously been used for farming or was the residence and out building for the farm. There would be approximately 1.4 miles of utility lines for water and sewage connection to the city and this would disturb about 0.5 acres.

Temporary exposure of bare soils during construction activities would result in short-term erosion issues. Use of appropriate erosion control measures and limiting the amount of time that soil was left exposed would assist in minimizing temporary erosion issues as a result of facility developments. Revegetation with native vegetation of the disturbed work zones as soon as construction was completed would also assist in mitigating impacts to soil resources.

The expansion of trail areas, including a section that would cross the river to allow access to the north side of the park, would result in minor to moderate, long-term

impacts to soil resources. Impacts would include loss of vegetation soil compaction (and the associated loss of soil permeability) and accelerated erosion, especially on sloped topographies. A greater level of adverse impact would occur to the riverbank as a result of construction of a trail crossing.

High potential would exist for off-trail visitor use within areas designated as "contemplative" or for "extended learning." These impacts would be minor to moderate depending on the level of off-trail developments and would be similar to impacts identified for official trail areas.

Adverse impacts to soil resources as a result of both official and unofficial trail expansions would be partially mitigated by monitoring of trail areas, closure and restoration of trail sections determined to have unacceptable levels of damage, and by visitor education. Mitigation would not be as effective as in the no-action alternative because of greater parkwide development and the associated potential for impacts to the larger land base.

Minor, temporary increases in soil erosion would also occur as a result of restoration activities that require ground disturbance (e.g., restoration of railroad grade and former agricultural fields) but would result in overall long-term benefits to soil resources in the park through stabilization with native vegetation.

Long-term natural erosion processes would continue under alternative B.

Cumulative Effects. Minor to moderate adverse impacts to soil resources through accelerated erosion would continue on lands surrounding the national historic site as a result of historic and ongoing unmitigated agricultural practices.

Conclusion. Permanent loss of soil resources would occur as a result of onsite visitor center and associated parking lot development. Long-term, minor to moderate, adverse impacts to soil resources would occur in areas associated with onsite trail expansions (official and unofficial). These impacts would include vegetation trampling/loss, soil compaction (and associated loss of soil permeability), and accelerated soil erosion. Impacts to soil resources would be partially mitigated; however, mitigation measures (e.g., monitoring, revegetation, visitor education) would not be as effective as in the no-action alternative due to the larger land area exposed to visitor use/impact.

Restoration actions would provide overall, moderate, long-term benefits to soil resources through stabilization of existing disturbed sites with native vegetation.

Air Quality

Analysis. Temporary, minor to moderate impairments to local air quality and visibility would occur as a result of construction activities in development of the onsite visitor center, parking facilities, and trail expansions. These impacts would include increases in air particulates (fugitive dust) and increased vehicle emissions from heavy motorized equipment use. Mitigating measures, such as shutting off equipment engines when not in use and watering to keep dust levels down, would be used to minimize temporary impacts to air quality and visibility.

Long-term, minor to moderate, adverse impacts to local air quality would occur as a result of greater concentrations of vehicles onsite (including buses). Impacts would be greatest during periods of peak visitation and relatively minor during non-

peak time periods. These impacts would be partially mitigated by requesting that all vehicle engines be turned off when parked.

Minor to moderate, short-term, adverse impacts to air quality and visibility would also occur during restoration activities such as prescribed burning and plowing. These activities would be mitigated by burning only under conditions that allow for maximum smoke dispersal and by minimizing ground disturbance activities (e.g., plowing) under exceptionally windy, dry conditions.

Cumulative Effects. Roger Mills County remains predominately rural with agriculture serving as the dominant land use. Additional external factors associated with seasonal agricultural practices may contribute to temporary impairments to localized air quality and visibility. Use of agricultural equipment would result in increases in vehicle emissions and in air particulates (, fugitive dust). Vehicle emissions and residential and commercial developments in the nearby town of Cheyenne serve as added minor, long-term sources of localized air pollution. Air quality issues external to the park would be addressed through cooperative efforts among the National Park Service, associated landowners, and the Oklahoma Department of Environmental Quality.

Conclusion. Minor to moderate, short-term impacts to air quality and near-range visibility would occur as a result of increases in heavy equipment emissions and air particulates during construction activities. Minor to moderate, long-term impacts would also be expected due to increased onsite visitor use and associated vehicle concentration. Impacts would be greatest during peak visitation (summer months).

Minor to moderate, short-term (1-2 days), impacts to air quality would occur as a result of prescribed burning and other restoration activities that require ground disturbance (e.g., creation of fugitive dust).

Water Quality

Analysis. Minor, short-term impacts to water quality would occur as a result of increased sediment runoff during onsite construction activities. Temporary impacts to water quality could be mitigated through use of appropriate erosion control measures during construction operations. Regular inspections of equipment would guard against any potential adverse impact to surface or ground waters as a result of leakage of petroleum-based or other hazardous chemical substances (e.g., hydraulic fluid). Equipment operators would be required to stop work and immediately contact the park superintendent should any leaks or breakage of equipment fluid lines occur.

Minor-to moderate, long-term adverse impacts to water quality are likely to result from increased onsite vehicle parking and associated runoff of petroleum-based and other hazardous chemicals. These impacts would be partially mitigated through proper parking facility design and inclusion of a runoff filtration system.

Soil compaction (and subsequent losses in soil permeability) would result in increased soil erosion in association with trail areas (hardened and unhardened). These impacts would be minor to moderate and long term in nature as a result of increases in sediment runoff. Erosion and associated sediment runoff would further increase with the development of social trails within the designated “contemplative” and “extended learning” zones. Adverse

impacts to water quality as a result of soil compaction and accelerated erosion would be partially mitigated by monitoring, closure and revegetation of areas determined to have sustained unacceptable levels of disturbance, and through visitor education. The level of proposed onsite development and visitor use under this alternative would require much more extensive monitoring and active mitigation to control visitor use impacts as compared to existing conditions.

Restoration activities would result in moderate, long-term benefits to water resources within the park by establishing healthy stands of native vegetation, reducing the land area susceptible to erosion, and by reducing rates of sediment and surface water runoff (e.g., increased water retention and filtration).

Cumulative Effects. There are numerous potential sources of water contamination in the Washita River watershed upstream of the battlefield. Potential sources include wastes emitted from livestock, humans, and wildlife; leaching of fertilizers and pesticides from surrounding agricultural lands; leachate from unlined drilling-mud disposal pits near the river; oil drilling and production; and from volatile organic compounds (VOCs) used or spilled at an airport and other commercial establishments upgradient (Project Proposal, 1999).

Preliminary water quality testing of the Washita River within the park has identified the presence of EPA-acceptable levels of four pesticides (Atrazine, Deethylatrazine, Prometon, and Tebuthiuron) and seasonally high counts of fecal coliform and fecal streptococcal bacteria that substantially exceeded the states primary contact standards for swimming. Sources for the pesticide and fecal bacteria detected are external to the park and are most likely associated with upstream agricultural land uses.

Potential impacts to water quality within the Washita River might also occur as a result of the proposed expansion of a waste pit facility 2 miles west (upstream) of the park. Until recently, this facility consisted of a commercial saltwater disposal well used primarily for the injection of saline waters produced in the oil and gas drilling process into a deep aquifer. The facility has received approval from the Oklahoma Corporation Commission to expand commercial operations by developing three 350’ x 1150’ earthen pits (evaporative ponds) for the disposal of oil field wastes, including water-based drilling fluids and/or cuttings and salt-contaminated soils (Reber, et. al. 1999). These new disposal pits would lie approximately ¼ mile up gradient from the Washita River.

Water pollution issues outside the park would be addressed through cooperative efforts among the National Park Service, associated landowners, and the Oklahoma Department of Environmental Quality.

Conclusion. Minor to moderate, short-term impacts to water quality would result from onsite construction activities. Long-term, minor to moderate adverse impacts would occur to water quality as a result of parking lot runoff and soil compaction and accelerated erosion in association with expanded trail systems and increased onsite visitor use. Long-term beneficial impacts would occur as restoration activities progressed, reducing rates of sediment and surface water runoff (e.g., increasing water retention and filtration), but these benefits would be moderately offset by the increased visitor use impacts.

Vegetation

Analysis. Permanent vegetation loss would occur as a result of construction of the new onsite visitor center, development of the visitor center parking lot (paved), west end parking facility (unpaved), and trail system expansions (including the hardening of sections of trail). Impacts to vegetation would be minimized during visitor center, parking facility, and trail developments by limiting access routes for equipment and machinery and by limiting the size of the work zone to only the minimum area required. Onsite presence of park staff during construction activities would also serve to minimize adverse impacts to park vegetation resources.

Minor to moderate, long-term, adverse impacts to native vegetation would be expected in areas immediately adjacent to parking facilities and adjacent to trail edges. These impacts would include trampling/loss of native vegetation, soil compaction (and associated loss of soil permeability), accelerated soil erosion, and the development of appropriate conditions of the spread and establishment of non-native plant species. Impacts associated with parking facilities would be minimized by the placement of aesthetically blending barriers (e.g., wood fencing) around parking facilities to constrain visitor access to defined trail areas. Use of a barrier would be especially important for the small unpaved parking facility at the west end of the park to assist in minimizing vehicle trespass (and, thus, impacts to vegetation resources) beyond the identified parking limits.

Additional vegetation losses would occur as off-trail visitor uses increased within the "contemplative" and "extended learning" zones. Habitat fragmentation throughout most of the park's vegetation habitats would increase as a result of official and unofficial trail expansions. Diligent monitoring of visitor use areas for signs of disturbance, timely re-vegetation of disturbed areas with native species, and visitor education would assist in minimizing impacts to vegetation resources.

Historic alterations to vegetation as a result of agricultural land uses, fire suppression, non-native plant establishment, and alterations in natural hydrologic processes (e.g., flooding) have resulted in substantial modification to vegetation resources as compared to 1868. Historic degradation (or loss) of native vegetation is most notable within the riparian and floodplain communities at the park. These community types are dominated by aggressive non-native plants such as tamarisk, old world bluestem, and downy brome.

Alternative B would result in the development of a trail crossing through the riparian corridor. Although visitor access within the corridor would remain limited, unsolicited use would occur as a result of visitors attempting to get closer to the river's edge. Social trail development within the riparian corridor would result in minor to moderate, adverse impacts as identified above for the "contemplative" and "extended learning" zones. Removal of vegetation from river- bank areas would also add additional impacts related to destabilization and accelerated bank erosion. Again, these impacts would be partially mitigated by monitoring, revegetation of disturbed areas, and visitor education.

Parkwide restoration activities including the use of prescribed fire, integrated weed (non-native plant) management, the

removal of sections of the abandoned railroad grade, and the subsequent re-establishment of healthy native plant communities within the park would result in long-term benefits to vegetation resources.

Cumulative Effects. Historic alterations through agriculture land uses, fire suppression, establishment of non-native species, and alterations to natural hydrologic processes have resulted in substantial degradation to the regional vegetative resources. Historic and current unmitigated overgrazing and agricultural cropping activities have resulted in region-wide losses of native plant diversity and reductions in overall plant community health. These impacts would have moderate adverse impacts to the parks vegetative resources through substantial reductions in natural plant recruitment/ migrations and through loss of potential for genetic exchange.

Although the park would work cooperatively with local landowners to resolve external invasive plant issues, the presence of numerous unmitigated populations of non-native plant species outside the park would represents a long-term moderate threat (potential for re-invasion) to park vegetation.

Conclusion. Alternative B would result in moderate, long-term, adverse impacts on vegetation resources in association with visitor use/development areas. Although restoration activities would result in overall long-term benefits to park vegetation resources, the level of active vegetation management required to maintain healthy native plant communities would substantially increase as a result of expanded onsite visitor access and uses.

Wildlife

Analysis. Temporary displacement and moderate direct loss of wildlife species would occur during construction activities associated with the proposed trail expansion/hardening and development of the onsite visitor center and new parking facilities. These impacts would have a greater effect on smaller, less mobile wildlife species (e.g., amphibians and reptiles) or species with smaller home ranges.

The placement of an onsite visitor center and associated parking facilities would result in long-term moderate to major adverse impacts to wildlife species. Increases in vehicle/visitor levels and associated noise, especially during periods of peak visitation, would likely eliminate noise sensitive species that currently live or use land areas adjacent to these proposed facilities. Selection for more noise-tolerant species would be a possible secondary impact, especially in areas of heaviest visitor use.

The proposed trail expansions and visitor use of "contemplative" and "extended learning" zones would distribute visitors (and associated noise) over a substantial larger area of the park as compared to existing conditions. Potential would exist for increased wildlife-visitor encounters/ interactions, again increasing direct and indirect disruptions to wildlife species. Impacts to species relying on sound as a form of communication (especially during breeding seasons) would be most adversely affected as a result of the wider distribution of human-caused sources of noise parkwide.

Habitat loss as a result of previous human disturbances and the presence of numerous

non-native plant species substantially threaten the wildlife diversity at the park. These historic impacts would be partially mitigated through restoration activities that would re-establish native plant communities. Although restoration activities would have short term, adverse impacts to some wildlife species as a result of temporary losses in vegetative cover and minor increases in ambient noise levels, the end result would be substantial enhancement of habitats for wildlife use.

Use of prescribed fire would be timed to avoid major breeding seasons for sensitive wildlife species (e.g., amphibians, reptiles, ground nesting birds). "Walk-throughs" of areas to be included in a prescribed burn would be performed immediately before any fire ignition to chase or alert wildlife species. Ground burrowing animals would be insulated from fire effects by soil depths of 1 inch or more.

Cumulative Effects. Regional wildlife has been historically affected by agricultural land uses (grazing and cropping), fire suppression, hydrologic alterations, and the introduction of non-native species. Cumulative impacts would be moderate to major long-term adverse to regional wildlife species diversity. The contribution of Washita is very small in comparison to the total cumulative impacts.

Conclusion. This alternative would result in moderate to major, short- and long-term impacts to various wildlife species that live on or travel near the park area. Impacts would be most severe during periods of peak visitation and/or during sensitive breeding seasons for wildlife.

Natural Soundscapes

Analysis. Short-term minor to moderate impacts to natural sounds would be experienced as a result of ambient noise originating from offsite sources (e.g., passing cars, farm machinery). Moderate to major, temporary adverse impacts to natural soundscapes are expected during construction of the onsite visitor center, parking, and trail facilities (e.g., heavy equipment use). Construction noise impacts to visitors would be mitigated by performing work, as much as possible, during nonpeak visitor seasons. Construction noise impacts to wildlife would be minimized by avoiding sensitive time periods related to reproductive cycles (e.g., frog calling).

Minor to moderate short-term increases in ambient noise levels would occur as a result of increased levels of onsite parking and visitor use. These disturbances would be more prevalent during periods of peak visitation (summer months) and in association with land areas connected to the visitor center facility. Increases in ambient noise levels would be partially mitigated by requesting that all vehicle engines be shut off when parked.

Distribution of visitors over a larger trail system would also serve to partially mitigate some noise impacts associated with visitor use, however, diminished natural soundscapes would be expected parkwide during times of peak visitation.

Cumulative Effects. Surrounding land uses are minimally disruptive to natural soundscapes. Cumulative impacts would be negligible to minor, short term, and adverse.

Conclusion. Activities and uses proposed under this alternative would result in minor

to moderate, predominately short-term, adverse impacts to natural soundscapes. Impacts would increase as the levels of park visitation increased.

IMPACTS ON VISITOR USE, EXPERIENCE, AND INTERPRETATION

Analysis

Under this alternative visitor use would continue to grow at a moderate pace. The construction of a visitor center would probably attract more visitors than the no-action alternative. The average length of stay would be longer than in the no-action alternative because visitors would spend considerable time at the visitor center, or on the trails at the site. This would have a moderate, long-term, positive impact on the visitor experience by increasing visitor understanding and appreciation of the site's themes and significance.

Building a visitor center onsite would provide visitors with a conveniently located facility in which to receive an extensive orientation to the park, its themes, and its significance. Increased understanding of park themes and significance would increase resource stewardship and visitor enjoyment. This would have a moderate, long-term, positive impact on the visitor experience.

Integration of visitor facilities into the site would provide continuity in the interpretation and visitor experience. Visitors would be able to walk directly from the visitor center out on to the site, which would be more convenient, provide continuity in their experience, and help maintain a reflective mood at the park. This would have a minor to moderate, long-term, positive impact on the visitor experience by increasing visitor convenience and helping to promote an appropriate mood for the visitor.

The development of a visitor center would provide new opportunities to cooperate and coordinate with the Cheyenne Arapaho tribe to provide educational programs and limited demonstrations. The visitor center would also provide enhanced opportunities for visitors to learn of the variety of regionally available experiences and opportunities to learn about Cheyenne Arapaho culture. These actions would increase visitor and local community members' understanding of the Washita battlefield, the events that occurred there, and the significance of the park. This would provide a minor to moderate, positive impact on the visitor experience at the park.

Because there would be more opportunities to construct formal trails, provide ranger-led walks, and develop wayside exhibits, visitors would have more opportunity to access and learn about the park than in the no-action alternative. Visitors could experience the resource on their own or with park staff in a manner that would help to provide a sense of place. Visitors would have the opportunity to view the village site from two different viewpoints, helping them to better understand the military approach to the location. Visitors with mobility impairments would have considerably more access to the park than in the no-action alternative. By increasing visitor contact with the primary park resources, these actions would have a moderate, long-term, positive impact on the visitor experience. However, these actions would have a moderate, long-term, negative impact on those visitors who think visitor access onto the site should not be encouraged.

The visitor center and associated parking, while built on a previously disturbed area,

would be an intrusion on the historic scene. The low topography and vegetation of the visitor center site would help minimize this impact, and the impact could also be partially mitigated through proper design and landscaping. However, this construction would still have a moderate, long-term, negative impact on visitors' ability to appreciate and view a relatively undisturbed historic scene and those visitors who thought development of the visitor center near the battlefield site was inappropriate.

The redesigned overlook and parking would have less of a visual impact on the historic scene, and visitors would experience a more restored landscape in this portion of the park than in the no-action alternative. These features of this alternative would provide visitors with a better opportunity to imagine the scene as it was in 1868, providing a minor, long-term, positive impact on the visitor experience.

Under this alternative there would be limited opportunities for cultural demonstrations, which would need to take place inside the visitor center or at an offsite location. This would result in some increase in visitor understanding of and respect for other cultures. This would have a minor, long-term, positive impact on the visitors' ability to understand the event from multiple perspectives.

Visitors would continue to be confused and inconvenienced by the two government headquarters within 1 mile of each other. There would continue to be minimal opportunities to share programs with the Forest Service. This would result in the continuation of a minor, long-term, negative impact on the experience of park and USFS visitors.

While visitors would not have opportunities to experience solitude or natural quiet at the overlook or the onsite visitor center, they would have ample opportunity for quiet and solitude on the park trails. Those visitors wishing to have a reflective experience would have additional opportunities for this type of experience in the small contemplative area on the west side of the park. This area also would provide relatively easy access to the river. The provision of these opportunities would have a minor, long-term, positive impact on those visitors who value opportunities for a contemplative experience.

The location of a visitor center onsite would mean staff and first aid facilities were available onsite during the park operating hours. This would provide for better visitor safety than in the no-action alternative. This would have a minor, long-term, positive impact on visitor safety.

Cumulative Effects

As previously mentioned, under this alternative there would be increased coordination with the Cheyenne Arapaho tribe to provide educational opportunities and demonstrations. The visitor center would provide visitors and local residents with information about other related sites where they could learn more about the event and the Cheyenne Arapaho. In addition to this National Park Service action, several regional historical groups and tribes are developing organized tours of cultural and historical sites in Oklahoma. The new visitor center would likely be a stop on these tours and increase the potential to educate a wider audience. The impacts of this increased audience, in combination with the impacts of wider cooperation with the Cheyenne Arapaho, would have a minor, long-term,

positive impact on the visitor center's ability to educate a wide audience.

Under this alternative the Oklahoma Historical Society's Black Kettle Museum would likely be converted to some other museum use once the National Park Service visitor center was operational. The impacts of this action, taken in conjunction with the National Park Service construction of a visitor center would result in minor, positive, cumulative impacts on the educational opportunities for visitors and residents of Cheyenne.

Conclusion

Visitors would have increased opportunities to learn about Washita Battlefield and to experience the park. This alternative would result in moderate, long-term, positive impacts on the visitor experience.

IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT

Implementation of alternative B could have moderate impacts on the socioeconomic environment of the local community over the long term. The existence of a visitor center might increase the average length of stay for visitors, leading visitors to spend slightly more money in the local community. Visitation to the park would gradually increase over time, which could increase business activity in the local area. This would result in long-term, positive benefits of a minor to moderate degree for a small number of firms and / or individuals, mostly those related to the tourism and service industries.

Some widening of Route 47a might need to take place in conjunction with the construction of the visitor center. Increasing visitation would also cause some increase in the amount of traffic in Cheyenne and on local highways, potentially causing some inconvenience to local residents and increased traffic hazards. This could result in minor to moderate, long-term, negative impacts on the residents of Cheyenne.

The development of a visitor center and site work would provide some moderate to major, short-term, positive economic benefits for a limited number of individuals and the enterprises involved with the development. This benefit would be concentrated in the construction and materials sectors and could be either local or regional depending on the contractors selected.

Cumulative Effects

No known cumulative impacts on tourism, recreational opportunities, or the local and regional economy would be expected.

Conclusion

There would be some minor to moderate, short-term and long-term positive impacts to the socioeconomic environment of the local community. There could be minor, negative long-term impacts on the road traffic in and around Cheyenne.

UNAVOIDABLE ADVERSE EFFECTS

There would be some alterations to the cultural landscape to accommodate visitors and their vehicles. Outside the area there would be changes due to additional traffic on the roadway.

RELATIONSHIP OF SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Restoring the prairie vegetation within the park would enhance long-term productivity of the biological resources associated within the boundary.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Like the preferred alternative, the loss of soil due to construction of new facilities would be an irreversible commitment of resources. The planning team is not aware of any other irreversible or irretrievable commitments of resources that would occur.

CONSULTATION AND COORDINATION

The *Draft General Management Plan/ Environmental Impact Statement* for Washita Battlefield National Historic Site is a collaboration of the National Park Service, US Forest Service, Native American groups and the public. Consultation and coordination among the agencies and public were vitally important throughout the planning process. The public had two primary avenues by which it participated in the development of the plan –involvement in public meetings and responses to newsletters.

PUBLIC MEETINGS AND NEWSLETTERS

Public meeting and newsletters were the avenue used to keep the public informed about and involved in the planning process for Washita. A mailing list was compiled during the planning process. This mailing list included members of governmental agencies, nongovernmental groups, businesses, legislators, local governments, and interested citizens. During the course of the planning process two newsletters were mailed and two sets of public meetings were held. In May 1999 scoping meetings were held in the towns of Cheyenne, Concho, and Anadarko, Oklahoma. These meetings as well as a newsletter that followed included the purpose, significance, and interpretive themes of the park and asked for public comments on these statements and on issues the plan should address. Most people who responded supported or did not disagree with the purpose, significance or interpretive themes statements. Most respondents wanted to see a minimal amount of development and a visitor facility.

Newsletter #2, published October 1999, presented the preliminary draft alternatives, followed by public meetings later in the month. Public meetings were held this time in Cheyenne, Concho, Anadarko and Elk City as well as a presentation of the alternatives to the Oklahoma Historical Society. Public feedback on the preliminary alternatives was positive.

CONSULTATION WITH THE STATE HISTORIC PRESERVATION OFFICES AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION

Section 106 of the National Historic Preservation Act of 1966 as amended (16USC270, et seq.) requires that federal agencies that have direct of indirect interest jurisdiction take into account the effect of undertaking on national register properties and allow the Advisory Council on Historic Preservation an opportunity to comment. Toward that end the National Park Service would work with the Oklahoma State Historic Preservation Offices, advisory council, and Oklahoma Historical Society to meet requirements of 36 CFR 800. Both state historic preservation offices were invited to participate in the planning process, and each had an opportunity to review and comment on the preliminary alternatives.

CONSULTATION WITH NATIVE AMERICANS

Consultation with Native American groups who historically occupied the area was initiated during the planning process. The Southern Cheyenne and Arapaho were invited to participate in this planning effort. All planning newsletters were sent to other tribes associated with Washita. An informational meeting on the preliminary alternatives was held in December 1999 with the Northern Cheyenne in Lame Deer, Wyoming. Conversations have been ongoing throughout the planning process to inform the tribes about the progress of the plan and identify how and to what extent they would like to be involved. The tribes will also have the opportunity to review and comment on this draft plan.

CONSULTATION WITH THE U.S. FISH AND WILDLIFE SERVICE

Informal consultation with the U.S. Fish and Wildlife Service began in October 1999 with a request for a list of endangered and threatened species the may occur in or near the park. A response dated October 1999 was received and is included in appendix D.

APPENDIX A: SUMMARY OF LEGISLATIVE HISTORY FOR WASHITA BATTLEFIELD NATIONAL HISTORIC SITE

APPENDIX B: SUMMARY OF KEY LEGAL MANDATES

Legal mandates provide direction for what can and cannot be considered in this plan. Several of the provisions of key legal mandates are summarized below.

NATIONAL PARKS AND RECREATION ACT OF 1978 (PL 95-625)

Section 604(b) of this act requires that general management plans be prepared and revised in a timely manner for each unit in the national park system. The act further specifies that general management plans will include measures for the preservation of the area's resources, indications of the types and intensities of development associated with public use of the unit, visitor carrying capacities for all areas of the unit, and indications of potential modifications of the unit's external boundaries if needed.

ENDANGERED SPECIES ACT OF 1973, AS AMENDED (16 USC 1531 ET SEQ.)

The purpose of this act is to provide protection for animal and plant species that are currently in danger of extinction (endangered) and those that may become so in the foreseeable future (threatened). Section 7 requires all federal agencies to ensure that their activities do not have adverse impacts on the continued existence of threatened or endangered species or on designated areas (critical habitats) that are important in conserving those species. Thus, the National Park Service is required to fully integrate endangered species conservation planning into park system management. Agencies also are required to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat. The result of formal or informal consultation with the Fish and Wildlife Service should be documented in an environmental assessment or environmental impact statement.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (NEPA; PL 91-190)

This act sets forth the federal policy to preserve important historic, cultural, and natural aspects of our national heritage. Another purpose of NEPA is to help public officials make decisions that are based on an objective understanding of environmental consequences and to take actions that protect, restore, and enhance the environment. The act applies to all federal projects or projects that require federal involvement. All federal agencies are directed to use a systematic, interdisciplinary approach that integrates natural and social sciences in planning and decision making that may impact the human environment. NEPA and the Council on Environmental Quality implementing regulations describe the process a proposed federal action such as this plan must follow. Among the steps in the process, NEPA and the regulations require early coordination, called "scoping," to determine the scope and significance of issues to be addressed in an environmental impact statement. A structured format for public involvement during the public review process is specified. When preparing an environmental impact statement, the regulations further require federal agencies to rigorously explore and objectively

evaluate all reasonable alternatives to the preferred alternative.

NATIONAL HISTORIC PRESERVATION ACT OF 1966, AS AMENDED (16 USC 470, ET SEQ.)

This act establishes as federal policy that the historical and cultural foundations of the nation's heritage be preserved. Section 106 requires that federal agencies that have direct or indirect jurisdiction over undertakings take into account the effect of those undertakings on properties eligible for or included in the National Register of Historic Places.

The section also provides the Advisory Council on Historic Preservation and the state historic preservation officer an opportunity to comment on the undertaking. The 1992 amendments to the act have further defined the roles of American Indian tribes and the affected public in the section 106 consultation process. Section 110 requires federal managers, in consultation with the state historic preservation officers, to establish programs to identify, evaluate, and nominate properties to the National Register of Preservation and the state historic preservation officer an opportunity to comment on the undertaking. The 1992 amendments to the act have further defined the roles of American Indian tribes and the affected public in the section 106 consultation process. Section 110 requires federal managers, in consultation with the state historic preservation officers, to establish programs to identify, evaluate, and nominate properties to the National Register of Historic Places. National register eligible or listed properties and national historic landmarks are afforded special protection in federal project federal project planning and implementation.

APPENDIX C: SELECTION OF THE PREFERRED ALTERNATIVE

One of the major tasks in the planning process was developing a preferred alternative — the NPS preferred approach for managing the park over the next 20 years. In order to develop a preliminary preferred alternative, the four draft alternatives that had been reviewed by the public were evaluated using an objective analysis process called "Choosing By Advantages" (CBA). This process evaluates different choices (in this case, the four preliminary alternatives) by identifying and comparing the relative advantages of each according to a set of goals and relevant facts.

The first step in the CBA process was to develop the criteria that would be used to compare the alternatives. The criteria were based on the park purposes and significance, laws and policies, and the concerns and comments commonly expressed by the public and the park staff about the draft management alternatives. Several criteria were originally developed and then dropped because there were no significant differences in advantages between alternatives.

The criteria were how well each alternative

- protects the integrity (including visual and ecological) of the historic landscape
- protects opportunities for solitude, hearing natural sounds, and viewing the night sky
- maintains an atmosphere of hallowed ground, reflection and contemplation respectful of the sacredness of the site
- protects the archeological resources
- provides visitor access and opportunities for first-hand experience of the site, including for people with disabilities
- provides for a continuous visitor experience
- allows visitors to understand the park story
- interprets a broader context (of the battle, culture, region and ecosystem)
- provides visitor services and orientation. accommodates groups
- is operationally efficient
- provides public partnership opportunities (NPS-USFS)
- provides opportunities for tribal
- participation, interpretation and demonstrations

For each criteria, the team identified the advantages of an alternative based on the specific characteristics or consequences of that alternative. Each advantage was given a point value that reflected its importance when compared to the advantages of the other alternatives. By adding up the advantage scores for each alternative, the team was able to determine how the alternatives compared overall.

After completing the CBA scoring for all four alternatives, the alternative labeled dispersed visitor use had the highest total advantage rating. This alternative provides

- the best combination of site integrity and providing visitor access
- partnership with the USFS offering operational efficiency and enhanced public service
- a bridge between the past and the present with enhances cultural interactions and
- greater opportunity for tribal programs and demonstrations
- most advantages for taxpayer dollars

APPENDIX D: LETTER FROM THE U.S. FISH AND WILDLIFE SERVICE

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